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COMMITTEE OF EXPERTS ON THE
TRANSPORT OF DANGEROUS GOODS

Sub-Committee of Experts on the
Transport of Dangerous Goods

REPORT OF THE SUB-COMMITTEE OF EXPERTS ON ITS NINTH SESSION
(Geneva, 4 - 15 July 1994)

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Annex 2: Report of the Working Group on the Rationalization of the Manual of Tests and Criteria (General Introduction and Part I) **ST/SG/AC.10/C.3/18/Add.2**

Annex 3: Report of the Working Group on the Rationalization of the Manual of Tests and Criteria (Parts II and III) **ST/SG/AC.10/C.3/18/Add.3**

Annex 4: Draft revised Chapter 12 (Paragraphs 12.1 to 12.23.2) (as developed by the Working Group on portable tanks) **ST/SG/AC.10/C.3/18/Add.4**

REPORT

ATTENDANCE

1. The Sub-Committee of Experts on the Transport of Dangerous Goods held its ninth session from 4 -15 July 1994. The session was attended by experts from the following countries: Argentina; Belgium; Brazil; Canada; China; France; Germany; Italy; Japan; Mexico; Morocco; Netherlands; Norway; Poland; Russian Federation; Sweden; United Kingdom; United States of America. Observers from Austria, Finland, Iran (Islamic Republic of), Portugal, Spain, and Switzerland participated in accordance with Rule 72 of the Rules of Procedures of the Economic and Social Council. Representatives of the following specialized agencies and intergovernmental organizations attended the session: International Labour Organization (ILO); International Civil Aviation Organization (ICAO); International Maritime Organization (IMO); World Health Organization (WHO); Commission of the European Communities (CEC);, Central Office for International Railway Transport (OCTI); Organization for Economic Co-operation and Development (OECD). Representatives of the European Liquefied Petroleum Gas Association (AEGPL), International Air Transport Association (IATA), International Organization for Standardization (ISO), the European Chemical Industry Council (CEFIC), the Hazardous Materials Advisory Council (HMAC), the European Syndicate on Steel Drums (SEFA), the European Confederation of Paint, Printing Ink and Artists Colours Manufacturers Associations (CEPE) and the European Fertilizer Manufacturers' Association (EFMA) took part in the discussions when items of concern to their organizations were considered.

ADOPTION OF THE AGENDA

2. The Sub-Committee adopted the provisional agenda prepared by the secretariat (ST/SG/AC.10/C.3/17 and Addendum 1), as modified for inclusion of papers submitted at a later date (Information paper INF.2). The proposed timetable (ST/SG/AC.10/C.3/17/Add.2) was also agreed with minor modifications.

3. The expert from Germany requested that document ST/SG/AC.10/C.3/R.440 and -/Corr.1 on the precedence of hazard be postponed to the next biennium; this was agreed by the Sub-Committee.

4. A member of the secretariat explained that document ST/SG/AC.10/C.3/R.555 (Task Manager's report for the Commission on Sustainable Development (CSD) on the progress within the UN system and by two other intergovernmental organisations in implementing chapter 19 of Agenda 21) had not been issued because the report itself was received from the United Nations Environment Programme very late after its submission to CSD. A copy was made available to all delegations.

ELECTION OF OFFICERS

5. The Committee of Experts at its seventeenth session had agreed that Mr. L. Grainger (United Kingdom) and Mr. J. Monteith (Canada) should be re-elected as Chairman and Vice-Chairman respectively for the biennium 1993-1994 (ST/SG/AC.10/19, paragraph 216).

ADMINISTRATIVE MATTERS

6. The Director of the Transport Division of the Economic Commission for Europe, Mr. J. Capel Ferrer, welcomed the participants and informed them that applications for full membership had been submitted by the Governments of Argentina, Belgium, Brazil, Mexico and Morocco and had been approved by the Secretary-General and by the Economic and Social Council (Decision 1994/223). Therefore the Committee and the Sub-Committee now include experts from nineteen countries.

CLASS 1 (EXPLOSIVES) MATTERS

Revision of Class 1

Documents: ST/SG/AC.10/C.3/R.483 (United Kingdom)
ST/SG/AC.10/C.3/R.565 (United Kingdom)
ST/SG/AC.10/C.3/R.582 (CEFIC)
ST/SG/AC.10/C.3/R.588 (HMAC)

7. Document -/C.3/R.483 contained the report of the working group session held in Washington D.C. from 18 to 22 October 1993 (see also document ST/SG/AC.10/C.3/16, paragraphs 15 and 16) and was used as a basis for discussion. The first thirty-five pages of the English version were replaced by an informal corrigendum, as the original document had not been correctly paginated. In addition to documents -/C.3/R.565, -/C.3/R.582 and -/C.3/R.588, comments had also been made by the expert from France (Information paper No. 19) and by the

experts or observers from Australia, Norway, United States, Canada, France, Germany and Sweden as summarized by the expert from the United Kingdom in Information paper No. 21.

8. The Sub-Committee felt it necessary to convene a lunch-time and evening hour working group for considering again certain packing methods where a consensus could not easily be reached (see also paragraph 23).

Document: ST/SG/AC.10/C.3/R.362 (Russian Federation)

9. The expert from the Russian Federation made a progress report on the work carried out as regards the determination of the danger of deflagration to explosion transition in explosive materials (Information papers Nos. 20 and 29). He announced that, on the basis of experimental data and of results of theoretical simulating data, a standard method would be developed between 1995 and 1997; this method would determine the danger of explosion during accidental ignition of explosive materials packed in bags and loaded in vehicles.

10. The Sub-Committee, noting that progress reports would be presented during that period invited, at the suggestion of the expert from the United States, the expert from the Russian Federation to establish a link between those results and the flow-chart for classification of explosives.

Documents: ST/SG/AC.10/C.3/R.369/Rev.1 (United Kingdom)
ST/SG/AC.10/C.3/R.387 (Germany)

11. Both documents related to the classification of mixtures of nitroglycerin with lactose, glucose or other sugars. It was proposed to classify such mixtures in divisions 4.1 or 1.2D (document -/C.3/R.369/Rev.1) or divisions 4.1 or 1.4D (document -/C.3/R.387), depending on the respective concentrations of nitroglycerin and sugar. Remarks were also submitted by the expert from Germany in Information paper No.30. Several experts recalled that in case of fire the nitroglycerin and the sugar separate, and therefore the risk is due to the explosion of nitroglycerin, which cannot be considered as a mass explosion (Division 1.1). However, classification in Division 1.2 would imply a risk of projection of fragments, which is not the case, and none of Divisions 1.1 to 1.6 are really suitable.

12. In Information paper No. 14, the expert from the United States expressed the view that such mixtures should be treated as diluted nitroglycerin, and if they could not be exempted from Class 1 by Test Series 6 (see paragraph 4.4.5 of the Recommendations) they should be considered as 1.1D substances. This view was shared by the majority of the Sub-Committee, although 1.1D classification would have to be confirmed. Documents -/C.3/R.369/Rev.1 and -/C.3/R.387 could remain on the agenda as background documents but new views departing from the position of the Sub-Committee would have to be supported by new data and new submissions.

Document: ST/SG/AC.10/C.3/R.537 (Canada)

13. The proposal concerning the addition of a new entry for detonators assemblies as 1.4S articles was adopted, except for the special provision which was not deemed necessary (see annex 1).

Documents: ST/SG/AC.10/C.3/R.524 and -/C.3/R.525 (Germany)

14. These two documents concern the classification of dinitrosobenzene, wetted with not less than 52% water, by mass, and picramic acid, wetted with not less than 30% water by mass, under Division 4.1 and an amendment to special provision 28 aiming at forbidding metal packagings for desensitized explosives.

15. The expert from the United States noted that, according to the data sheets provided, the proposed substances had not been submitted to series 6 tests, which should have been the first step for their classification outside Class 1. He also questioned why metal packagings for substances other than these two substances would be excluded. The expert from Germany agreed to present new proposals once Series 6 test have been carried out.

Documents: ST/SG/AC.10/C.3/R.441 (Germany)
ST/SG/AC.10/C.3/R.562 (United Kingdom)

16. The Sub-Committee agreed to amend special provision 226 in order to clarify that formulations of isosorbide-5-mononitrate (UN 3251) containing not less than 30% non-volatile, non-flammable phlegmatizer, are not subject to the Recommendations (see annex 1).

Document: ST/SG/AC.10/C.3/R.538 (Canada)

17. The expert from Canada withdrew his proposal concerning UN 0101 in favour of an alternative proposal made by the expert from Germany in Information paper No. 31 which was adopted by the Sub-Committee (deletion of the word "INSTANTANEOUS" and of the synonym "QUICKMATCH"; modification to the glossary) (see annex 1). The question of determining the best packing method in order to avoid losses of powder contents was referred to the working group on the revision of Class 1 packing methods.

Document: ST/SG/AC.10/C.3/R.588 (HMAC)

18. The Sub-Committee considered that the amendment proposed by HMAC was not necessary as the interpretation of Note 2 under packing method EP 16 (document ST/SG/AC.10/C.3/R.483) is that inner packagings are not required for blasting explosives of types B (UN 0082 and 0331), D (UN 0084) and E (UN 0332) which consist of an explosive substance in a casing of the type described in the HMAC document.

Document: ST/SG/AC.10/C.3/R.482 (Germany, Norway and Sweden)

19. The proposal to allow the carriage of certain substances of division 1.1D with a low sensitivity (ANFOs, slurries and emulsions) in non-metallic IBCs was supported by several experts, as this method of transport has been used in practice for a long time in several countries, especially those with an important mining industry, in relation to large-scale blasting operations, without accidents.

20. Other experts felt that 1.1D explosives should not be carried in IBCs, or that such a method should not be introduced if such carriage occurred only at local level. The expert from France said that some substances covered by UN 0241 have a cap sensitivity similar to dynamites covered by UN 0081. On the other hand the expert from Canada said those substances are much less sensitive to other stimuli (friction, fire) than UN 0081.

21. It was confirmed that such 1.1D substances were carried in IBCs not only at local level but also on long distances, and not only by land but also by sea, at least on short sea voyages.

22. The proposal was adopted after inclusion of a note specifying that only certain types of 1.1D explosives (excluding nitro derivatives) could be carried in IBCs (see annex 1).

Revision of packing methods

23. The Sub-Committee noted with satisfaction that the working group on the revision of Class 1 packing methods could resolve all non-consensus issues and had prepared a comprehensive list of modifications to document -/C.3/R.483 which were adopted and are annexed to this report (see annex 1). A consolidated document for all Class 1 matters should be prepared for the Committee session, in a format compatible with that used for the published Recommendations. The Chairman said that no substantial discussion should normally take place on that document during the Committee session.

RATIONALIZATION OF THE MANUAL OF TESTS AND CRITERIA

Documents: ST/SG/AC.10/C.3/R.474 (United Kingdom)
ST/SG/AC.10/C.3/R.475 (United Kingdom)

24. These documents contained the texts agreed so far by the Sub-Committee until its last session (see also document ST/SG/AC.10/C.3/16, paragraphs 6 to 14, 25 to 34 and annex 1). It was agreed that a working group should be established to consider the Manual of Tests and Criteria once the new documents have been considered by the Sub-Committee.

General Introduction and Part I

Documents: ST/SG/AC.10/C.3/R.474 (United Kingdom)
ST/SG/AC.10/C.3/R.367 (United Kingdom)
ST/SG/AC.10/C.3/R.476 (United Kingdom)

25. The basic document and the two documents dealing with technical amendments to Part I and consequential changes to the Recommendations were referred to the working group.

Documents: ST/SG/AC.10/C.3/R.527 (Secretariat)
ST/SG/AC.10/C.3/R.547 (United States)

26. The two documents, containing a comparison of three versions of the UN Gap test by the expert from the United States and comments by the Chairman of the OECD International Group of Experts on the Explosion Risks of Unstable Substances (OECD-IGUS) on the UN Gap test and the Time/Pressure test for liquids were referred to the working group.

Documents: ST/SG/AC.10/C.3/R.543 (United States)
ST/SG/AC.10/C.3/R.546 (United States)

27. The two documents, containing examples of results for test 5(b)(ii) and proposals to maintain lead cylinder and steel plate witnesses in Tests 5(a) and 7(a) were referred to the working group.

Documents: ST/SG/AC.10/C.3/R.494 (India)
ST/SG/AC.10/C.3/R.529 (Secretariat; proposal from the Chairman of OECD-IGUS)

28. The Chairman pointed out that these documents implied criticisms of test 6(c) and of definitions in Chapter 1 of the Recommendations. Several experts acknowledged that there might be difficulties in performing the 6(c) test and in interpreting results. Several experts felt that more time was needed for considering the usefulness of the revised test 6(c) prescriptions proposed in document -/C.3/R.529, as well as their consequences on existing classification. It was also recalled that the Committee had decided that the rationalization should be an editorial exercise which should not affect existing classification. As document -/C.3/R.494 related to the first draft for Part I of the Manual in document -/C.3/R.370, it was referred to the working group to determine whether it was still relevant in the context of document -/C.3/R.474.
Document -/C.3/R.529 was referred to the Committee as a basis for dicussion of the possible inclusion of an item on the revision of test 6(c) and its interpretation for classification purposes in the program of work of the next biennium.

Document: ST/SG/AC.10/C.3/R.382 (Germany)

29. It was agreed that the proposed text "Heating under confinement in a steel box" could be an appropriate additional text for those few entries for nitroglycerin mixtures, but it was not felt necessary to include such a text in the Manual.

Manual of Tests and Criteria, Parts II and III

Documents: ST/SG/AC.10/C.3/R.475 (United Kingdom)
ST/SG/AC.10/C.3/R.476 (United Kingdom)
ST/SG/AC.10/C.3/R.477 (Netherlands)
ST/SG/AC.10/C.3/R.528 (Secretariat; comments by the Chairman of OECD-IGUS)

30. These documents were all referred to the working group.

Document: ST/SG/AC.10/C.3/R.553 (Germany)

31. There was a limited support for this proposal about testing liquids liable to spontaneous combustion of division 4.2, packing groups II or III because the Sub-Committee felt in general that more information would be needed on the specific substances tested and the tests results.

Document: ST/SG/AC.10/C.3/R.385/Rev.1 (CEFIC)

32. This document relating to the exemption of certain self-heating substances from certain requirements for packages with a volume up to $3m^3$ or 450 litres was supplemented by additional information on test results obtained from a pigment.

33. The expert from the United Kingdom felt that the classification should not take account of the volume of substances carrried, as this approach would not facilitate global harmonization of criteria.

34. The view of the majority however was that the arguments put forward by CEFIC were valid and the proposal was adopted with the replacement of the word "IBCs" by "packages" in the first sentence of the proposed paragraph 14.5.5.2 (see annex 1).

35. A proposal by the expert from Germany to require that exempted packages should be loaded so that the free circulation of air within the loading space avoid potential heat accumulation was not adopted as the majority view was that it would not be logical to impose transport conditions on exempted substances.

Document: ST/SG/AC.10/C.3/R.557 (Netherlands)

36. This document on test H4 (Heat accumulation storage test) was referred to the working group.

Document: ST/SG/AC.10/C.3/R.572 (CEFIC)

37. This proposal for a test method for emergency vent sizing of organic peroxide tank-containers was supported by the experts from Germany and the Netherlands, but the expert from the United States felt that other methods would be as efficient and he did not see an urgent need for such a test.

38. The expert from the United Kingdom said that this could be considered in the next biennium. The expert from Germany, said that the need for such a test was due to the deletion of the "thermal explosion vessel test (E.4)" from the Manual, and he suggested that the Sub-Committee should recommend such tests even though they are not included in the Recommendation. He was invited to submit such a proposal in writing, and in the mean time the document was referred to the Committee.

Report of the Working Group on the Rationalization of the Manual of Tests and Criteria

39. The Chairman of the working group, Mr. Groothuizen (Netherlands) presented the reports of the group which are reproduced in annexes 2 and 3. He said there would be no need for a new working group session on Part I, but that further work would be needed to ensure completion of the rationalization of Parts II and III of the Manual at the Committee session.

40. The part of the report relating to the General Introduction and Part I of the Manual was approved as well as the proposed related amendments to documents -/C.3/R.474 and -/C.3/R.475 and the consequent changes to the Recommendations (see annex 2 under cover of document ST/SG/AC.10/C.3/18/Add.2).

41 The Group could not reach a consensus on the question of including a test method for liquid oxidizers (see document ST/SG/AC.10/C.3/18/Add.3, paragraph 8); therefore the question was referred back to the Sub Committee (see paragraph 51).

42. The Sub-Committee endorsed the rest of the report of the Group concerning Parts II and III of the Manual (see annex 3, under cover of document ST/SG/AC.10/C.3/18/Add.3).

CRITERIA FOR DIVISION 5.1 (SOLID AND LIQUID OXIDIZING SUBSTANCES)
Criteria for solid oxidizing substances

Documents: ST/SG/AC.10/C.3/R.471 (France)
ST/SG/AC.10/C.3/R.480/Rev.1 (Japan)
ST/SG/AC.10/C.3/R.498 (Norway)
ST/SG/AC.10/C.3/R.528 (Secretariat; comments from the Chairman of the OECD-IGUS group)

43. In addition to the documents submitted, test results obtained from the methods proposed in documents -/C.3/R.471 and -/C.3/R.528 were provided by CEFIC.

44. The expert from the United States considered that there was no compelling need to revise the existing test for solid oxidizing substances in this biennium and proposed that the matter should be deferred to the next biennium. He said that the test methods should be agreed before test results were discussed.

45. It was recalled that the Committee should complete the revision of the Manual of tests and criteria in December 1994, and most experts supported the introduction of a revised test method in the revised Manual. Therefore the documents were referred to the Working Group on the Rationalization of the Manual of Tests and Criteria. The recommendations of the working group (document ST/SG/AC.10/C.3/18/Add.3, paragraphs 6, 7 and 41) were endorsed by the Sub-Committee.

Criteria for liquid oxidizing substances

Documents: ST/SG/AC.10/C.3/R.480/Rev.1 (Japan)
ST/SG/AC.10/C.3/R.496 (Sweden)
ST/SG/AC.10/C.3/R.534 (Norway)

46. The expert from the United States said that, as for solids, he did not think there was a compelling need for finalization of this new test in the current biennium.

47. The Chairman said that the test method for liquids was a new method and therefore it should be considered differently and more carefully; if no agreement was reached, the Committee might decide not to introduce such criteria in the Manual. However, the Working Group on the Rationalization of the Manual of Tests and Criteria should be requested to consider the documents and to present the conclusions they could draw from their discussions.

48. Several experts said that they would support the inclusion of a new test for liquid oxidizing substances as test results were already available, even if such a test had to be revised in the near future.

49. The expert from Canada said that he favoured the approach by Japan as the proposed test method would be less expensive than the method proposed by the expert from Sweden and therefore would be more easily implemented in developing countries.

50. The expert from Belgium said that the purpose of the test method as described in the Swedish document -/C.3/R.496 ("to express the potential for a liquid substance to form a deflagrating mixture with a fuel") did not really correspond to the evaluation of oxidizing properties of a substance.

51. The documents were referred to the working group for discussion. As the working group could not reach a consensus on the question of inclusion of a test method for liquid oxidizers (see paragraph 41), three questions were put to the vote and it was decided that:

test methods and criteria for liquid oxidizers are necessary;
test methods and criteria should be developed during this biennium and included in the rationalized Manual of Tests and Criteria;
the time pressure test as proposed by Sweden in document -/C.3/R.496 is preferred to the conical pile test proposed by the expert from Japan in document -/C.3/R.480/Rev.1.

Document: ST/SG/AC.10/C.3/R.535 (Norway)
(Criteria for mixtures of solid oxidizing substances and water)

52. The idea of simplifying the classification of such mixtures of solid oxidizing substances with water on the basis of a fixed percentage of water (30% for packing group II and 20% for packing group III) was welcomed by several experts as a pragmatic approach avoiding the need for testing. However several experts requested clarification on the percentages chosen and felt that the proposed text might have to be improved. The document was referred to the Committee.

Document: ST/SG/AC.10/C.3/R.499 (Norway)
(UN 2426, AMMONIUM NITRATE, LIQUID, hot concentrated solution)

53. The proposal to exempt certain solutions was adopted with modifications (solutions with more than 20% water and only if ammonium nitrate remains in solution under the conditions of transport) (see annex 1).

REVIEW OF CHAPTER 12 AND MULTIMODAL TANK TABLES

Documents: ST/SG/AC.10/C.3/R.422 (United States)
ST/SG/AC.10/C.3/R.484 (United States)
ST/SG/AC.10/C.3/R.584 (United States)
ST/SG/AC.10/C.3/R.479 (United Kingdom)

54. The Sub-Committee agreed to convene a working group during the session to complete the work started by the informal working group which met in London, at IMO Headquarters from 17 to 21 January 1994 (see also ST/SG/AC.10/C.3/16, paragraphs 35 and 36 and annex 2). The working group was requested to work on the report of the London session, submitted by the expert of the United States (-/C.3/R.484), and to consider in particular the remaining items (-/C.3/R.484, annex 2), in the light of the basic comparison between the UN Recommendations and the IMDG Code (-/C.3/R.422).

55. The working group was also requested to consider document -/C.3/R.584 on rail impact testing for portable tanks. The rail impact tests are requested in North America because of operational conditions different from those in Western Europe (trains with a much greater number of wagons) and the working group should bear in mind that Chapter 12 of the Recommendations applies to multimodal tank-containers, i.e. tanks which may be moved in all parts of the world and that all possible situations should be envisaged.

56. The working group was also requested to consider the inclusion of provisions in table 12.2 for the carriage of UN 1990 BENZALDEHYDE, on the basis of document -/C.3/R.479.

57. The expert from France presented an informal paper which would be submitted later as an official document as a basic text for the revision of provisions for the carriage of gases in multimodal tank-containers.

Documents: ST/SG/AC.10/C.3/R.253 (United States)
ST/SG/AC.10/C.3/R.570 (IMO)
ST/SG/AC.10/C.3/R.587 (United States)
ST/SG/AC.10/C.3/R.591 (United States)

58. As all these documents related to the specific requirements applicable to specific substances, the Sub-Committee considered that they should be discussed at a later stage, possibly during the new biennium, when the revision of Part I of Chapter 12 has been completed.

59. The expert from the United States explained that document -/C.3/R.587 was intended for the development of a rationalized approach to assigning requirements to substances of Classes 3 to 9.

60. The expert from the United States said that the proposal in document -/C.3/R.591 resulted from the work carried out after the Bhopal accident, as it had been concluded after careful consideration that a distinction should be made between substances meeting Packing Group I vapour inhalation toxicity criteria ("Sub-Group A") and other Packing Group I toxic substances ("Sub-Group B").

61. The representative of HMAC said that some requirements proposed by the expert from the United States had far-reaching consequences, such as the insulation requirements for tanks carrying toxic substances of sub-group A, and would need careful consideration. The expert from Italy added that the proposed minimum test pressures would also have to be examined.

62. The representative from OCTI suggested that the working group should prepare a list of all possible types of portable tanks (and not only IMO types I and II) so that these types may be easily referred to in the tank tables.

Report of the Working Group on Portable Tanks

63. The Working Group on Portable Tanks met from 4 to 8 July 1994 under the chairmanship of Mr. Schulz-Forberg (Germany), who presented the outcome of the work to the Sub-Committee.

64. The working group finalized a first draft of a revised Part I, sections 12.2 to 12.23, (portable tanks for substances of classes 3 to 9) of chapter 12. The Chairman of the Group mentioned that informal papers had been presented by the expert from France on the requirements

for equivalent thicknesses, by the Tank-Container Association of the United Kingdom and by the expert from Germany, but these papers had not been considered by the group. He suggested that comments on this first draft should be submitted in writing in due time for consideration during the second reading session.

65. The Chairman of the group mentioned three particular questions which would need further discussion:

compatibility of substances with the tank material, and how to solve the question at the level of the approval procedure;

possibility of providing for exemptions in chapter 12, and "AA" marking for such exemptions in the approval number;

test certificates for periodic inspections.

66. For the question of rail impact test (document -/C.3/R.584) the Chairman of the group said that a "4g" impact test would have to be considered as reflecting the worst service conditions, and if such a test was to be deemed necessary for portable tanks, then it should also be taken into account in testing procedures for any type of multimodal transport unit for instance those of the Convention on Safe Containers (CSC) or standards such as ISO 1496-3. The group could foresee two possibilities for portable tanks: to solve the problem at the level of design criteria or to develop a dynamic test; but the group felt unable to decide on this matter and requested additional background information.

67. The group recommended to adopt the proposal in document -/C.3/R.479 to include an entry in table 12.2 for the carriage of benzaldehyde in portable tanks.

68. The Sub-Committee approved the first draft prepared by the group for Part I of chapter 12, as well as the new entry in chapter 12 for benzaldehyde. It was agreed that the group should be convened again during the first week of the next Committee session for a second reading of the texts agreed so far (see annex 4, under cover of document ST/SG/AC.10/C.3/18/Add.4).

69. The representative of HMAC questioned whether the list of substances for table 12.2 would be reviewed during the Committee session. It was reaffirmed that completion of the work on that list would probably be achieved only in the next biennium.

70. On a suggestion by the Chairman of the group that work could start on requirements for portable tanks for the carriage of liquefied gas at the next session of the Committee on the basis of the comparison carried out by the expert from France, the expert from the United States said that this would cause difficulties as specific experts would have to be included in his delegation. It was agreed that preliminary discussions could take place at least on specific aspects which are common to portable tanks for substances of classes 3 to 9 and those for non-refrigerated gases of class 2. The time available for discussing tanks for class 2 would depend in fact on the comments made on the draft for classes 3 to 9 and proposals available for non-refrigerated gases.

CLASS 2 (GASES) MATTERS (INCLUDING ISO WORK ON STANDARDS FOR GAS CYLINDERS AND QUALITY ASSURANCE)

71. The representative of ISO presented a progress report (Information paper No.3) on the work carried out by the Technical Committee ISO/TC58 "Gas cylinders", in particular as regards refillable seamless gas cylinders for world-wide use, standards for other types of gas cylinders, quality assurance programme, precautionary labels for gas cylinders, determination of the toxicity of gas mixtures, determination of tissue corrosiveness, compatibility between gases and materials. He confirmed that standards concerning precautionary labels, toxicity of a gas mixture and tissue corrosiveness would be finalized by the end of the year. However, the Sub-Committee realized that standards relating to other subjects would not be ready before the Committee session and that it would be inappropriate to refer to them in the 9th revised edition of the Recommendations. The documents prepared by ISO could be reviewed extensively during the next biennium.

Document:ST/SG/AC.10/C.3/R.495 (ISO)
(ISO DIS 10298 on the determination of the toxicity of a gas or a gas mixture)

72. The Sub-Committee noted that the criteria used corresponded to those of the UN Recommendations, although there was a contradiction between paragraph 3.1 (24 hour exposure) and 3.2 (1 hour exposure) for LC_{50} value. The reason for defining subdivisions (very toxic/toxic) was questioned as well as the order of the subdivisions (the very toxic category should have been numbered "1").

73. Several delegations noted that it would be difficult to refer to the standard as a whole if the classification of the substances listed in the tables does not correspond to the classification in the UN Recommendations. In particular certain substances listed are not gases but liquids (e.g. silicon tetrachloride is a Class 8 liquid substance, uranium hexafluoride is a Class 7 substance). The name of the gas listed does not always correspond to the UN proper shipping name.

74. The Sub-Committee recommended that all experts contact their ISO national member before a final decision is taken on that draft standard.

Document: ST/SG/AC.10/C.3/R.504
(Draft Standard ISO/DIS 13 338 on the determination of tissue corrosiveness of a gas or gas mixture)

75. Several experts questioned how the determination of corrosivity had been carried out and what the criteria for assignment to category C, C^T, nc, i, etc. were. It was noted that the classification did not correspond to that applicable in countries of the European Union for the purpose of user safety. Correspondence with transport classification should also be checked carefully, as it was noted that in the draft standard there was no link between corrosivity and toxicity, whilst in the UN Recommendations a corrosive gas is classified as a toxic gas.

76. The representative of ISO noted the comments made and said that ISO was prepared to cooperate actively in order to ensure harmonization and that the standard, if published, could be revised at a later stage.

Document: ST/SG/AC.10/C.3/R.451 (Secretariat, on behalf of the RID/ADR Joint Meeting)

77. This document had already been discussed at the 8th session, but it had been agreed to revert to certain questions which could not be clarified then (see document ST/SG/AC.10/C.3/16, paragraphs 54, 61, 63).

Indication of the physical state

78. The Sub-Committee agreed that the word "COMPRESSED" should be added to the proper shipping name of all compressed gases as this word is representative of the physical risk caused by these gases. It was also agreed to delete the word "LIQUEFIED" from the proper shipping names of liquefied gases as this word was not deemed to convey essential safety information.

Definition of oxidizing gases

79. On the basis of the information provided by ISO that air is not considered as a highly oxidizing substance and that ISO 10156 had been misinterpreted by the RID/ADR Joint Meeting,

the Sub-Committee decided that nothing should be changed in the existing paragraph 1.17.2(d) of the Recommendations and that no subsidiary risk 05 was needed for UN 1002 (air, compressed). The representative of ISO said that ISO 10 156 would be revised in order to avoid any further misinterpretation.

Classification of hydrocarbon gases and mixtures thereof

80. The proposal in paragraph 5 was adopted (see annex 1).

Document: ST/SG/AC.10/C.3/R.548 (Australia)

81. The proposal to allow "R" numbers to be used as alternative proper shipping names was adopted provided that the "R" designation is preceded by the words "REFRIGERANT GAS" (see annex 1).

Document: ST/SG/AC.10/C.3/R.485 (CEFIC)

82. In this proposal, CEFIC referred to ISO 5145:1990, where chlorine is listed as a highly oxidizing gas, i.e. with an oxipotential greater than air, and to ISO 10156: 1990 where it is mentioned that such gases will support combustion more vigorously than air (in accordance with the criteria described in paragraph 1.17.1 of the Recommendations). However CEFIC doubted that any test had ever been carried out to prove that chlorine is really complying with the criteria. The representative of CEFIC recalled that the division 5.1 subsidiary risk had been deleted from the IMDG Code in 1986 and was to be reintroduced in 1997 following a proposal by the Netherlands (document -/C.3/R.72/Rev.2) to the Sub-Committee in 1990, proposal which was not supported by a data sheet.

83. The representative of IMO warned that the Committee might be critized if decisions taken two years ago were put into question again. The expert from Germany said that EIGA was working on that subject and that it would be premature to change the classification. However the majority of experts felt that oxidizing properties of chlorine corresponding to the definition for oxidizing substances in the Recommendations were not fully demonstrated and agreed to delete the division 5.1 subsidiary risk. If evidence that chlorine is more oxidizing than air might be demonstrated, delegations were requested to submit such evidence before the next Committee session.

Document: ST/SG/AC.10/C.3/R.492 (EIGA)

84. The proposal to add the word "COMPRESSED" in the proper shipping name and to add subsidiary risk 5.1 was adopted.

Document: ST/SG/AC.10/C.3/R.550 (Netherlands) (UN 1035, UN 2035 and UN 1070)

85. The proposals in paragraph 2 (to delete the word "(COMPRESSED)" in the proper shipping name for UN 1035, 2035 and 1070 as they should be regarded as liquefied gases on the basis of their critical temperature); paragraph 3 (to delete the n.o.s. entries for pure hydrocarbon gases as all such gases are listed); paragraph 4 (to amend the name for UN 1958 and 2035) were adopted (see annex 1).

86. There was no consensus on the proposal in paragraph 1 for a definition for pure gases, as drafted. The representative of OCTI explained that such a definition was needed because it was important in practice to know for what degrees of purity of the substance the values given in table 12.1 for maximum allowable working pressure and filling limits could be applied in case of transport by tanks. However in case of entries such as UN 2455 METHYL NITRITE, the transport of which is subject to approval of the competent authority, it was not clear how such a definition would be interpreted, as mixtures could then be carried under N.O.S. entries. Interpretation for tank transport could perhaps be inserted in chapter 12 rather than in the definition of chapter 1. The expert from the Netherlands was invited to present a new proposal, if deemed necessary, which would take account of all specific aspects to be addressed.

87. It was felt that reclassification of UN 1082, as proposed in paragraph 6, should be supported by a data sheet and appropriate amendments to table 12.1. Similarly, the need for a split of UN 1005 into two separate entries for anhydrous ammonia and ammonia solutions should be demonstrated by data sheets accompanied by appropriate provisions for conditions of transport.

Document: ST/SG/AC.10/C.3/R.590 (United States)

88. This document on aerosols with subsidiary risks was submitted late and was referred to the Committee.

CLASS 8 (CORROSIVE SUBSTANCES) MATTERS (INCLUDING TEST METHODS FOR DETERMINING METAL CORROSION)

89. The representative from CEFIC said that the UN criteria for classification of corrosive goods in class 8 were not in line with the existing classification, and that he had succeeded only partially in convincing the Sub-Committee of this fact. Therefore CEFIC decided not to pursue this issue but rather to put its efforts in the harmonization of existing classification systems and more specifically in the harmonization of criteria used to classify substances possessing corrosive properties for living tissues.

90. A member of the secretariat informed the Sub-Committee that ISO standard 2604: 1975, referred to in Chapter 8 of the Recommendations for defining type P3 steel as a reference material for testing, had been cancelled and replaced by ISO 9328: 1991 Parts 1 to 5. However, it does not seem that type P3 steel is still defined in the new standard. ISO had been contacted on that matter and clarification should be available for the Committee session.

LISTING AND CLASSIFICATION

Document: ST/SG/AC.10/C.3/R.430 (Canada)

91. The expert from Canada confirmed that several isomers exist for UN 1914 and 2348 and that therefore the names should be in the plural (see also document ST/SG/AC.10/C.3/16, paragraph 7). According to the information in document ST/SG/AC.10/C.3/16, paragraph 79, the name for UN 1110 should be n-AMYL METHYL KETONE.

Document: ST/SG/AC.10/C.3/R.439 (Rev.1 (Germany)

92. There was no support at this time for two separate entries distinguishing batteries containing solid sodium from those containing liquid sodium, and the proposal by the expert from Germany was not adopted, except for the modification to special provision 239 stating that batteries or cells might contain polysulphides and that they are not subject to the Recommendations if they are installed in vehicles.

Document: ST/SG/AC.10/C.3//R.443/Rev.1 (Germany)

93. The proposal to amend the entry for UN 3170 (aluminium processing by-products) and special provision 244 was adopted with slight modifications (see annex 1).

Document: ST/SG/AC.10/C.3/R.444 and -/Add.1 (Germany)

94. The proposal to reclassify UN 2295 METHYL CHLOROACETATE in class 6.1, packaging group I with the flammability subsidiary risk, and to amend the entry in table 12.2 accordingly was adopted (see annex 1).

Document: ST/SG/AC.10/C.3/R.501 (Belgium)

95. The proposal to delete the entry for selenium powder (UN 2658) because this substance does not meet the division 6.1 criteria was adopted. The expert from the United Kingdom said that this substance might have been classified on the basis of human experience.

Document: ST/SG/AC.10/C.3/R.487 (HMAC)

96. Several experts objected to the proposal by HMAC to review the exceptions based on inability to sustain combustion, as the new criteria had been adopted at the last session of the Committee and were still in the process of being incorporated in national legislation and international legal instruments.

97. The representative of HMAC said that when the criteria were adopted, it was on the understanding that they could be revised as the ISO had not yet adopted a final standard corresponding to ISO TR 9038. He proposed to lower the flashpoint limit for exemption to 23°C instead of 35°C, noting that exemptions existed already for more dangerous substances such as ethanol solutions. He proposed also to exempt any liquid, regardless of flashpoint, which does not sustain combustion, in an inner packaging of a capacity not exceeding 5 litres.

98. Several experts were opposed to a lower limit of flashpoint especially when liquids are carried in large receptacles or IBCs, in which case empty packagings themselves present a risk of explosion. The proposal to lower the flashpoint limit from 35°C to 23°C was not adopted.

99. Although some experts thought that exemptions might be granted under the provisions of Chapter 15 for limited quantities, other experts feared that this practice would lead to the carriage of large quantities of flammable liquids packed in non-tested packagings presenting a risk especially for transport in containers. Other experts felt that the exemptions provided for alcoholic beverages - for specific reasons linked to the trade value of such beverages - should not become the general rule. The proposal to exempt flammable liquids which do not sustain combustion in inner packagings not exceeding five litres was not adopted.

Document: ST/SG/AC.10/C.3/R.488 (HMAC)

100. The representative of HMAC, in the above-mentioned document, raised the problem of classification based on human experience, the inconsistencies between the classification of certain existing substances classified on such basis and the criteria, as well as the difficulties for classifying mixtures and solutions of substances classified on the basis of human experience. He proposed to develop specific proposals to identify substances classified on the basis of human experience and to provide guidance for the classification of solutions and mixtures.

101. Several experts shared the view that it would be difficult to reach a global harmonization if substances remained classified on the basis of human experience and not on the basis of harmonized criteria.

102. Other experts recalled that many substances had been classified on the basis of proven evidence of their toxic effects on human beings in real life situations, and that certain accidents showed that experimental data did not always correspond to the actual toxicity of chemicals. Therefore all information available - in particular information which may be obtained from accidental poisoning - should be used as much as possible; this is recognized in paragraphs 6.2 and 6.3 of the Recommendations, where human experience takes precedence over grouping criteria. Therefore they thought that this possibility of classification should remain. In addition, it was pointed out that many substances which are not listed as well as solutions and mixtures are not classified on the basis of tests but by analogy.

103. The Sub-Committee agreed that HMAC could pursue the matter and develop specific proposals.

Document: ST/SG/AC.10/C.3/R.493 (ICAO)
(Chemical samples)

104. The Sub-Committee agreed to include a new entry for CHEMICAL SAMPLES, TOXIC, liquid or solid, to be used for samples of chemicals taken for analysis in connection with the implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (see annex 1).

Document: ST/SG/AC.10/C.3/R.505 (Austria)
(Exemptions of ethyl alcohol solutions)

105. The proposal to extend the exemption clause of special provision 145 to all ethanol solutions and not only to alcoholic beverages was not adopted. The expert from the United States said that this could be acceptable if it was made clear that it would apply only to ethanol solutions with a high commercial value such as perfumes and alcoholic beverages, but the Sub-Committee considered that the case of alcoholic beverages should remain an exception and that the derogation should not be extended.

Document: ST/SG/AC.10/C.3/R.506 (Austria)
(UN 1323 FERROCERIUM)

106. The Sub-Committee did not agree to add the proposed synonyms (CER MISCHMETAL, LIGHTER FLINT) and to amend the packing group provisions for UN 1323, 1333, 3078 as it was not convinced that the packing group could be determined on the basis of tests. However it agreed to add a special provision for exemption of ferrocerium stabilized against corrosion with a minimum iron content of 10% (see annex 1).

Document: ST/SG/AC.10/C.3/R.508 (Italy)
(UN numbers for class 7)

107. The document was referred to the Committee as it was noted that the question of allocating UN numbers to radioactive materials would be discussed by IAEA in October; experts were invited to send comments to the expert from Italy.

Document: ST/SG/AC.10/C.3/R.515 (IMO)
(Methacrylic acid under temperature control)

108. The Sub-Committee noted that the original intent of special provision 245 was to avoid accidents in reheating tanks containing solidified methacrylic acid and not to impose temperature control conditions for the carriage in packages and IBCs. Therefore it was decided to delete special provision 245 and to introduce it as a note 14 in table 12.2 (see annex 1).

Document: ST/SG/AC.10/C.3/R.531 (Canada)
(UN 3217 PERCARBONATES, INORGANIC)

109. Although this entry was a new entry intended to cover percarbonates other than sodium percarbonate, the Sub-Committee noted that no percarbonates of industrial importance other than sodium percarbonate seems to exist. Therefore the entry was deleted, as well as special provision 126 (see annex 1).

Document: ST/SG/AC.10/C.3/R.533 (Canada)
(Plural shipping names)

110. The addition of two notes at the beginning of Chapter 2 to clarify the use of plural names where different isomers exist and to cover hydrates of an inorganic substance under the UN number allocated to the anhydrous substance was adopted (see annex 1). The amendment to paragraph 13.8.3.2 was not adopted.

111. The following classification amendments were adopted (see annex 1):

deletion of UN 2489 DIPHENYLMETHANE-4,4'-DIISOCYANATE **(ST/SG/AC.10/C.3/R.542, United States) (ST/SG/AC.10/C.3/R.566, CEFIC)**

flammability subsidiary risk for UN 1199, renamed FURFURALDEHYDES **(ST/SG/AC.10/C.3/R.564, United Kingdom)**

reclassification of chloroacetone in division 6.1, packaging group I, subsidiary risks 3 and 8 **(ST/SG/AC.10/C.3/R.544, United States) (ST/SG/AC.10/C.3/R.516, IMO)**

reclassification of UN 1251 METHYL VINYL KETONE in division 6.1 **(ST/SG/AC.10/C.3/R.580, Germany)**

addition of the word "inorganic" in the description of UN 1556 and UN 1557 (ICAO)

Consequential changes to table 12.2 were adopted as proposed (see annex 1).

Document: ST/SG/AC.10/C.3/R.551 (Germany)

112. The addition of a new entry for chemical kits or first aid kits in class 9 was agreed, subject to an editorial review of the proposed special provision to take account of ICAO provision (see annex 1).

Document: ST/SG/AC.10/C.3/R.585 (United States)
(Removal of UN 2369 - ETHYLENE GLYCOL MONOBUTYL ETHER from the Recommendations)

113. To justify his proposal, the expert from the United States argued that the classification based on LD_{50} values on rats are not relevant to human toxicity and that toxicity data on guinea pigs showed different effects.

114. The experts from Italy strongly objected to the arguments put forward, as the whole classification system for toxicity in the Recommendations is based on LD_{50} values on rats. He asked that this proposal should not be considered as a matter of principle. The expert from Germany associated himself to that statement and said that guinea pigs are much more resistant than rats and humans to exposure to toxic chemicals.

115. The proposal was adopted however as the representative of CEFIC said that human experience with ingestion of household products containing ethylene glycol monbutyl ether showed that the product is not toxic. He was invited to provide evidence for the next Committee session.

Document: ST/SG/AC.10/C.3/R.592 (United States)
(Reclassification of substances meeting the inhalation toxicity criteria for packing group I)

116. As this proposal had been submitted late, it was referred to the Committee. The expert from the United States was invited to produce data sheets, although it was noted that data sheets had been submitted for some of these substances in the last biennium and the Committee had rejected the proposals.

Document: ST/SG/AC.10/C.3/R.593 (UNITED STATES)
(Classification of vinylpyridine, inhibited)

117. Consideration of this late proposal was postponed to the Committee session.

118. The representative from ICAO informed the Sub-Committee that the ICAO Dangerous Goods panel had not accepted to include the roman numeral (II) in the synonym "Ammonium tetrachloromercurate (II)" referred to as MERCURY AMMONIUM CHLORIDE in the general index. The Sub-Committee regretted that decision as in the IUPAC nomenclature the use of such numerals is essential to determine the exact nature of the substance and therefore its dangerous properties, and invited ICAO to reconsider that decision.

Document: ST/SG/AC.10/C.3/R.434 (HMAC)(Deletion of table 6.1)

119. The question of deleting table 6.1 and referring to the WHO "Recommended classification of pesticides by hazard and guidelines to classification" was addressed at the last session (ST/SG/AC.10/C.3/16, paragraphs 71 to 73), and it had then been agreed to come back on the subject and to consult IPCS.

120. It was recognized that table 6.1 was out of date, and that it would be difficult to keep it up to date by calculating new concentrations for assignment to packing groups each time the WHO list is updated. Therefore the Sub-Committee agreed in principle that the columns relating to packing groups could be deleted. The expert from Belgium suggested that, as the WHO list is revised every two years, the LD_{50} values could be placed in a column 3. The Sub-Committee preferred a general note referring to the LD_{50} values given in the WHO list which could be used for the determination of the packing group by calculation according to the concentration and the toxicity criteria of the UN Recommendations.

121. The Sub-Committee considered however that the two first columns should be retained as they constituted an essential link between the ISO or recognised name of a pesticide and the UN numbers, which is essential for emergency purposes. The Sub-Committee also noted that Part I of the WHO publication contained recommended criteria for classification of pesticides by hazard, having effects on the assignment of the toxic label. These criteria are different from those of the UN Recommendations and those presently envisaged in the process of global harmonization. Therefore the question was raised whether WHO envisaged to reconsider those criteria in the context of global harmonization and Agenda 21. The representative of WHO said that these criteria are widely used for the safe use of pesticides and are embodied in various national legislations. A revision of the recommended classification would have to be approved by the World Health Assembly but proposals to that effect could be made.

122. A member of the secretariat suggested that in the longer term, it would be useful to incorporate a column referring to UN numbers in the WHO list, and that if the WHO classification criteria could take account of the harmonization process, it would then be much easier to refer to the WHO publication. The representative of WHO said that he would be prepared to include UN numbers in the list. However, members of the Sub-Committee felt that it would be premature to do so and that if it had to be done, the work should be checked carefully by the Sub-Committee.

Document: ST/SG/AC.10/C.3/R 561 (United Kingdom)
(Amendment to special provision 235)

123. The proposal to clarify the interpretation of special provision 235 as regards the classification of air bag inflator units was adopted. The expert from Japan proposed to extend that classification to seat-belt pretensioners but he was requested to address the question in writing.

124. The expert from France proposed in information paper No.18 to allow the carriage of air bag modules under UN No.3268 in class 9 subject to conditions of special provision 235 when these air bag modules were carried unpackaged in dedicated transport units or handling devices from the site of production to places of assembly. He was invited to submit a new written proposal to the Committee.

Organic peroxides and self-reactive substances

Documents: ST/SG/AC.10/C.3/R.573 (CEFIC)
ST/SG/AC.10/C.3/R.575 (CEFIC)
ST/SG/AC.10/C.3/R.576 (CEFIC)
ST/SG/AC.10/C.3/R.581 (CEFIC)
ST/SG/AC.10/C.3/R.586 (United States)

125. All these documents concerning listing and classification of organic peroxides and their packagings were referred to the Working Group on the Rationalization of the Manual of Tests and Criteria. Comments of the working group and texts adopted are reproduced in document ST/SG/AC.10/C.3/18/Add.3 (paragraphs 33, 34, 35, 37 and annex E).

EDITORIAL REVIEW OF CHAPTER 3

Document: ST/SG/AC.10/C.3/R.478 (United Kingdom)
ST/SG/AC.10/C.3/R.532 (Canada)

126. The proposed amendments to special provisions 105 and 210 and to paragraph 1.23, were adopted, as well as the deletion of special provision 110 (see annex 1).

SYSTEMATIC LIST OF SUBSTANCES (EXTENSION OF APPENDIX A)

Documents: ST/SG/AC.10/C.3/R.460 (Netherlands)
ST/SG/AC.10/C.3/R.481 (Netherlands)

127. The expert from Belgium commented orally on the draft systematic list prepared by the expert from the Netherlands and questioned the principles for determining sub-divisions, e.g. those containing only one or two entries, the long list of "other substances" in division 6.1 and the sub-divisions for Class 9.

128. The Sub-Committee noted that the list prepared by the expert from the Netherlands was based on the existing chapter 2 and that the list would have to be revised on the basis of the new amendments to be adopted by the Committee at its next session. The expert from the Netherlands said this could be done automatically with a computer programme translating chapter 2 into the format of the systematic list. Such an exercise could be done once the new chapter 2 has been prepared.

129. Nevertheless, the experts are still divided on the need for including such a list in the Recommendations. The arguments for the inclusion are:

usefulness of the list for classification purposes;
the grouping of substances can be used to simplify the determination of conditions of transport for substances belonging to the same group;
the grouping of substances may be useful in the revision of multimodal tank tables, especially for developing a rationalized approach for assigning tank-requirements to substances belonging to the same group.

The arguments against the list are:

the information contained in the list is redundant with that of chapter 2 and therefore is not deemed absolutely necessary;
increased thickness of the book (100 pages), implying delays in translation and publication, increased cost of publishing and price increase of the book;
new burden for the secretariat for keeping the list up-to-date and for translating it in all official languages.

130. The representative of OCTI suggested that the systematic list could be published as a separate publication; this solution would avoid delays in publishing the ninth edition of the Recommendations.

131. Experts were invited to consider carefully the pros and cons concerning the systematic list before the next session of the Committee, so that a sound decision might be taken.

MATTERS RELATING TO PACKAGINGS AND INTERMEDIATE BULK CONTAINERS
Organic peroxides and self-reactive substances

Documents: ST/SG/AC.10/C.3/R.571 (CEFIC)
ST/SG/AC.10/C.3/R.577 (CEFIC)
ST/SG/AC.10/C.3/R.579 (CEFIC)
ST/SG/AC.10/C.3/R.586 (United States)

132. All these documents concerning packagings for organic peroxides were referred to the Working Group on the Rationalization of the Manual of Tests and Criteria. Comments from the

group are reproduced in document ST/SG/AC.10/C.3/18/Add.3, paragraph 37, and revised documents should be prepared.

Document: ST/SG/AC.10/C.3/R.489 (HMAC)
(Supplementary packagings to move leaking packages)

133. This proposal was submitted as a follow-up to the initial proposal by the expert from the United Kingdom (ST/SG/AC.10/C.3/R.454 and ST/SG/AC.10/C.3/16, paragraph 116). Long discussions ensued on this proposal as to the standards such packagings should meet and whether or not there should be differentiation between those intended for liquids and those for solids, etc.

134. Most delegations felt that the approach for such "salvage" packagings should be as flexible as possible, as such packagings are intended to respond to emergency situations where common sense and practicable judgement are more important than standards. It was however accepted that there was merit in standardizing the way dedicated salvage packagings are tested and marked, and the Sub-Committee agreed that provisions should be developed in Chapters 1, 9 and 13 and a drafting group was convened to develop provisions in the simplest possible way (see annex 1).

135. The expert from Germany considered that these new provisions should be reconsidered carefully, as the fact that alternative solutions are possible should be better reflected. The expert from Italy regretted that the drafting group did not develop provisions for chapter 1. It was recalled that these provisions were draft provisions to be endorsed by the Committee to which new proposals might be submitted. As there was support for the proposal of the expert from Germany, a sentence was added to paragraph 9.1.9 in square brackets (see annex 1).

Documents: ST/SG/AC.10/C.3/R.503 (Austria)
ST/SG/AC.10/C.3/R.539 (United Kingdom)
(Cold drop test)

136. These proposals were submitted as a follow-up to the eighth session (see document ST/SG/AC.10/C.3/16, paragraph 121) as to the need for a cold drop test required under paragraph 9.7.3.2 for combination packagings with inner plastics bags. The Sub-Committee agreed that plastic bags and sacks manufactured by processes such as extrusion or weaving were unlikely to be affected in the same way as rigid moulded packagings (- for which the cold drop test was introduced -) at low temperatures because of their flexibility, at least when they were containing solids. Therefore the proposal by the expert from the United Kingdom was adopted (see annex 1).

Documents: ST/SG/AC.10/C.3/R.509 (Italy)
ST/SG/AC.10/C.3/R.540 (United Kingdom)
(Chemical compatibility)

137. These proposals were also submitted as a follow-up to the eighth session (document ST/SG/AC.10/C.3/16, paragraphs 118 to 129), where the expert of Italy expressed concern at the fact that the decision to amend paragraphs 9.7.2.5, 16.4.8.1 and 16.5.8.1 to take account of the need to ensure chemical compatibility between packagings and IBCs with the liquid to be carried could be interpreted as a restriction of the scope of paragraphs 9.3.2, 9.6.7.1 and 9.6.7.4 to packagings intended to contain liquids and not to those intended to contain solids.

138. The proposal by the expert from the United Kingdom to clarify the situation by indicating that the steps to be taken in the case of liquids required in paragraphs 9.7.2.5, 16.4.8.1 and 16.5.8.1 are additional steps was adopted (see annex 1).

Document: ST/SG/AC.10/C.3/R.513 (IMO)
(UN type testing for Class 7 packagings)

139. The Sub-Committee took note that the Government of the United Kingdom had submitted a proposal to the IMO Sub-Committee on the Carriage of Dangerous Goods (CDG 44/3/1/34 and Corr.1) for the inclusion of UN type testing requirements for class 7 material pending consideration of the issue by IAEA, and that CDG had agreed to wait for the outcome of IAEA/UN discussions on this subject. It was pointed out however that there was not such discussion at the time being.

140. The expert from the United States said that a number of packagings meeting the IAEA standards for radioactive materials were suitable for dangerous goods, and that if the UN standards could be implemented through the IAEA Regulations, it might be worth giving some form of recognition to IAEA packaging standards through the UN Recommendations as well.

Document: ST/SG/AC.10/C.3/R.517
(Composite IBCs with flexible inner receptacles - 31HZ2 -)

141. The Sub-Committee noted that 31 HZ2 IBCs would not be authorized by IMO for the carriage of liquids of packing group III which exhibit no subsidiary risk.

Document: ST/SG/AC.10/C.3/R.526 (Brazil)

142. The proposal by the expert from Brazil for an editorial review of chapter 16 was agreed in principle. The Sub-Committee, noting that the expert from Brazil had already prepared a consolidated text of the proposed revised chapter 16, requested the secretariat to circulate that revised version as an information paper for checking of cross references etc. A member of the secretariat underlined that this editorial exercise would not have negligible resources implications as regards the preparation of the various versions of the Recommendations, and might not be followed in the short term by modal organizations such as IMO committed to implement only substantial changes. Therefore several delegations suggested that the editorial review of chapter 16 should take place only at a later stage, for example in the context of reformatting the UN Recommendations. It was agreed to refer the matter to the Committee.

Document: ST/SG/AC.10/C.3/R.541 (United Kingdom)
(Marking of inner receptacles)

143. This proposal for marking inner receptacles of composite IBCs was adopted with amendments (see annex 1).

Document: ST/SG/AC.10/C.3/R.552 (Germany)
(Definitions and criteria for the tightness of packages and IBCs)

144. Several experts supported the development of criteria for the tightness of packages and IBCs. Other experts felt that such criteria would not be necessary and that the Sub-Committee should rather concentrate on definitions and criteria for water-resistance. It was also noted that standardization organizations were working on the subject. It was agreed to refer the matter to the Committee. Any new proposal should be very specific but not too technical.

Document: ST/SG/AC.10/C.3/R.560 (United Kingdom)
(Intermediate packagings)

145. The proposal to add a definition in paragraph 9.2.1 for intermediate packagings was adopted.

Internal pressure (hydraulic) test

146. A proposal by ICAO in information paper No.12 to amend paragraph 9.3.4.1 to reflect the minimum test pressure requirements for packagings destined for air transport was not adopted as mention to air regulations was already made in 9.3.4.1 and such regulations should therefore be consulted by testing laboratories.

Performance of UN specification 1A1 drums

147. The representatives of ICAO and of IATA reported problems with 1A1 drums which had been found to leak during flight (Information papers Nos.13 and 28). Incidents involving such drums as a result of bumping and dragging during normal handling had been reported by several carriers and the ICAO Dangerous Goods Panel had suggested that puncture test criteria and minimum wall thickness requirements should be developed for such drums. As the matter would be rediscussed at ICAO and IATA level, the representative of ICAO said that she would submit a document to the Committee session.

REVIEW OF CHAPTER 15 (DANGEROUS GOODS IN LIMITED QUANTITIES)

Documents: **ST/SG/AC.10/C.3/R.511 (Italy)**
ST/SG/AC.10/C.3/R.512 (Germany)
ST/SG/AC.10/C.3/R.514 (IMO)

148. In document -/C.3/R.511, the expert from Italy proposed that the review of chapter 15 should take account of the various modal requirements and offered some basic principles to guide the discussion on the matter. As there was no specific proposal it was agreed that such principles should be referred to the Committee who may decide to keep this item for the next biennium. Therefore the expert from Germany withdrew his document.

149. The Sub-Committee took note of the decision of IMO to keep a requirement for marking transport units carrying dangerous goods in limited quantities. The expert from Belgium considered that such a requirement should also be included in the Recommendations.

150. The expert from the United States expressed concern at the decision of IMO to keep the requirement for marking transport units and he underlined the problems that would occur in multimodal transport. He hoped that the question would be readdressed in the next biennium in the context of the review of Chapter 15.

151. A member of the secretariat drew attention to a contradiction in the existing chapter 15. The footnote[1/] to sub-paragraph 15.2(e) implies that only test kits etc. that may contain small quantities of organic peroxides of types D,E or F and not requiring temperature control may be carried under the provisions of chapter 15. The first two lines relating to division 5.2 in table 15.1 and footnote[b/] suggest that test kits etc. containing organic peroxides of types B or C and not requiring temperature control may also be carried under the provisions of chapter 15. It was decided to amend paragraph 15.2(e) so that it applies to organic peroxides requiring temperature control only, and the footnote[1/] was deleted (see annex 1).

152. A proposal by ICAO (information paper No.7) to include entries in table 15.2 for the carriage in limited quantities of certain class 9 substances (UN 1990 benzaldehyde, UN 3077 and UN 3082 environmentally hazardous substances was adopted (see annex 1).

SEGREGATION REQUIREMENTS FOR DANGEROUS GOODS

Document: ST/SG/AC.10/C.3/R.470 (Argentina)

153. The expert from Argentina presented background information in support of the coding system he had introduced previously in document -/C.3/R.395. This coding system aims at checking the segregation of dangerous goods on board ships. He said that the system could be adapted to other modes of transport.

154. The Sub-Committee thanked the expert from Argentina for the preparation of that information where all cases of exceptions to the general segregation rules of the IMDG Code are listed. It was felt that in such a coding system only the UN numbers should be used as the references to IMDG Code page numbers could be misleading.

155. Most experts felt that such a coding system could be introduced in the Recommendations only if detailed segregation requirements applicable to all modes of transport were also introduced, and it was recalled that at its eighth session the Sub-Committee preferred that the segregation requirements be drafted in general terms to reflect basic principles so that the detailed requirements could be left to the specific modes as they may differ significantly.

156. The expert from Argentina said that he would conduct studies with a view to preparing a new document for the application of the coding system to other modes. The Vice-Chairman said that before pursuing the matter further, it would be wise to see the priority given to that subject by the Committee for the next biennium.

Document: ST/SG/AC.10/C.3/R.491 (China)

157. The proposal to include general principles for the segregation of dangerous goods in section 13 was adopted with a modification to 13.11.2 to reflect that requiring certain distances between incompatible goods was not the only way to ensure effective segregation between incompatible goods.

158. The expert from Belgium proposed to define more precisely incompatible dangerous goods as in paragraph 9.3.6. He was invited to submit written proposals to the Committee.

Document: ST/SG/AC.10/C.3/R.510 (Italy)

159. The proposal to replace provisions relating to the segregation from foodstuffs by references to conditions given by the appropriate public health authority or veterinary authority was not adopted as most experts felt that, even if such conditions might fall under the administrative responsibility of such authorities, in practice they needed to be included in transport regulations so that they might be complied with.

ACTIVITIES OF THE IPCS COORDINATING GROUP ON THE HARMONIZATION OF CLASSIFICATION AND LABELLING SYSTEMS

160. The Chairman announced the tragic death of Dr. M. Gilbert (WHO), Chairman of the IPCS Coordinating Group on the Harmonization of Classification and Labelling Systems, which occurred during the session, and he expressed condolences on behalf of the members of the Sub-Committee. The contribution of Dr. Gilbert to the development of Chapter 19 of Agenda 21 and to its implementation was greatly appreciated and the Chairman said that he would be deeply regretted by all those who had had the opportunity to cooperate with him in this process.

Task Manager's report for the UN Commission on Sustainable Development

161. The Sub-Committee took note of this report on progress within the UN system and by two other intergovernmental organizations in implementing Chapter 19 of Agenda 21 which had been submitted by the United Nations Environment Programme - as UN body designated as Task Manager for the implementation of Chapter 19 - to the second session of CSD. It was noted that this report was based on the information provided by all organizations concerned, and rearranged in order to reflect a balance of all organizations' activities.

Document: ST/SG/AC.10/C.3/R.554 (Secretariat)
(Report of the International Conference on Chemical Safety, Stockholm, Sweden, 25-29 April 1994)

162. The Sub-Committee took note of the decision to establish an intergovernmental forum on chemical safety which will be a non-institutional advisory body mainly concerned with the implementation of Chapter 19 of Agenda 21. The representative of ILO said that the next session of this forum would take place in early 1997, and that the intersessional group would meet in March 1995 at the invitation of the Government of Belgium to prepare the agenda and a set of documents - including a progress report on the implementation of the recommendations already made - for the 1997 forum session.

163. The Sub-Committee also noted that the Conference had adopted a resolution on Priorities for Action in Implementing Environmentally Sound Management of Chemicals, and that that resolution had been endorsed by the Commission on Sustainable Development at its May 1994 session. The Sub-Committee noted that a proposal by the UN/ECE to include a paragraph (11) under programme area D (Establishment of risk reduction programmes) to reflect the role of the Committee of Experts on the Transport of Dangerous Goods had been adopted by the Conference. The Sub-Committee regretted that a proposal to reflect ECOSOC Resolution 1993/50 under programme area B (Harmonization of Classification and Labelling of Chemicals) aiming at avoiding duplication of work and at ensuring that the achievements of the Committee in that field are taken into account to the extent possible was not adopted.

Document: ST/SG/AC.10/C.3/R.559 (Secretariat)
(Letter from ILO/IPCS concerning the harmonization of criteria for physical hazards)

164. The Sub-Committee took note of the letter sent jointly by the Directors of the ILO Working Conditions and Environment Department and of the International Programme for Chemical Safety, proposing that the Committee should elaborate, through its own experts and in collaboration with experts in aspects other than transport (such as protection of workers, consumers and the general environment), proposals for globally harmonized criteria for the classification of explosive, flammable and reactive materials, as discussed at the eighth session (document ST/SG/AC.10/C.3/16, paragraphs 137 to 143).

165. Most experts reiterated the views that the Committee should accept the proposal, on the conditions given in document ST/SG/AC.10/C.3/16, paragraph 139, except for paragraph (b) as

a consensus from all parties would be necessary and therefore discussions at the working group level might be more fruitful than at the Sub-Committee level.

166. The Chairman drew attention to the fact that such work would be to the detriment of other activities of the Committee. Nevertheless several experts felt that this would not be the case if such work was done at the working group level as for the rationalization of the Manual of Tests and Criteria.

167. The expert from Canada said that as a follow-up to the ILO report (document ST/SG/AC.10/C 3/R.364) a workshop on physical hazards would take place in Ottawa from 31 August to 2 September 1994. The workshop is intended to provide an opportunity for experts from different sectors to examine and compare criteria and methods used for the classification of physical hazards of chemicals, to clarify differences and similarities among the various systems, and to identify possibilities for future harmonization of the criteria, terms and methods for classifying physical hazards. The report should be submitted to ILO.

168. The expert from Germany provided information to interested experts on work already been done in that respect in his country.

169. The representative of ILO said that the report of the workshop would be submitted by the IPCS secretariat to the various members of the Coordinating Group on the harmonization of classification systems, and he hoped that such a report would help the Committee in finalizing proposals for globally harmonized criteria.

170. Several experts requested clarification on the scope of this workshop in relation to the proposal by ILO/IPCS; they understood from the letter reproduced in document -/C.3/R.559 that the Committee had been requested to take the lead as regards certain physical hazards, but they felt that the organization of that workshop in support of the work of ILO indicated a new direction. It was recalled that a meeting of the Coordinating Group would take place from 21 to 23 November 1994, just before the Committee session, and that the possible plans for the next biennium would then be clarified so that the Committee might take a final decision on its work programme.

Classification criteria for toxicity

Documents: **ST/SG/AC.10/C.3/R.363 (United States)**
ST/SG/AC.10/C.3/R.391 (United Kingdom)
ST/SG/AC.10/C.3/R.449 (CEFIC)
ST/SG/AC.10/C.3/R.450/Rev.1 (CEFIC)
ST/SG/AC.10/C.3/R.467 (United States)
ST/SG/AC.10/C.3/R.523 (Germany)
ST/SG/AC.10/C.3/R.589 (IPCS)

171. These documents contained proposals and comments concerning the harmonized criteria for toxicity proposed by the OECD Clearing House. Additional information had been submitted by CEFIC on dermal toxicity and inhalation toxicity in information papers Nos.23 and 24.

172. The document -/C.3/R.467 prepared by the expert from the United States was used as a basis for discussion as it listed all issues on which the Sub-Committee had to determine a position. The Sub-Committee considered the OECD criteria from the standpoint of their relevance to transport regulations with a view to providing comments to the OECD. The recommendations made by the Sub-Committee for the various cut-off limits will be conveyed to the Committee for onward comments to OECD.

Oral toxicity

173. The Sub-Committee agreed that the upper cut-off limit for packing group III should be the same for solids as for liquids (8 experts for; 1 against) and that the limit for liquids could be lowered from 500 mg/kg to 200 mg/kg(10 for; 2 against).

Dermal toxicity

174. The Sub-Committee agreed that the existing criterion of 40 mg/kg for packing group I could be changed to 50 mg/kg (13 experts for; none against).

Inhalation toxicity criteria for gases and vapours

175. The Sub-Committee decided that the most appropriate units for defining gas/vapour inhalation toxicity are ml/m^3 and not mg/l (14 for; none against).

176. The Sub-Committee (14 for; none against) confirmed that the vapour pressure expressions for defining packing groups II and III are not needed, for reasons given in paragraphs 12 and 13 of document -/C.3/R.467, but that the vapour expression for packing group I should not be deleted, mainly because the vapour pressure is used as an indication of the likelihood that a substance when spilled will be present in the air in a lethal concentration, and therefore is directly related to the level of inhalation risk a substance poses in such an event. The OECD should be made aware of this view and should be invited to reconsider the criteria for vapour inhalation toxicity.

177. Only one expert (United Kingdom) supported the adoption, at this time, of the proposed criterion 250 ml/m^3 instead of 1000 ml/m^3 for packing group I (5 experts against) and of the criterion 100 ml/m^3 instead of 3000 ml/m^3 for packing group II (3 experts against). Such a change would result in reclassification of a significant number of substances in a less stringent packing group and the implications should be fully evaluated.

178. It was agreed that the Committee could come back on this subject once the question has been readdressed globally (toxicity limits and vapour pressure) by OECD.

Inhalation by dusts and mists

179. The Sub-Committee was invited to choose between two alternative values determined by the OECD Clearing House for cut-off limits:

Packing Group II: 0.25 or 0.5 mg/l (4 hour LC_{50})
Packing Group III: 1.0 or 2.5 mg/l (4 hour LC_{50})

The experts from the United Kingdom, Norway and Canada supported the lower value, but the majority (8) decided to retain the upper value which is the existing criterion.

180. The Sub-Committee noted that the OECD test procedures do not require that at least 90% of the particles be 10 microns or less in diameter. The representative of OECD said the OECD Test Guidelines would be amended to take account of the particle size in the case of dusts, but there is no intention that tested chemical should be retested. The Chairman said that it is also the policy of the Committee that substances already classified should not be reclassified, at least in the short term and anyway as long as fully documented data sheets have not been submitted.

181. In this context, the proposal by the expert from Germany in document -/C.3/R.523 to amend the second sentence of paragraph 6.5 (c) to specify more precisely when substances have to be tested according to their particle size was adopted in principle subject to editorial modifications that the expert from Germany would prepare for the Committee session.

182. The representative of CEFIC said that he would prepare a document to better define in what conditions there might be production of dusts or mists during transport.

ENVIRONMENTALLY HAZARDOUS SUBSTANCES
Classification criteria for substances hazardous to the aquatic environment

Documents: **ST/SG/AC.10/C.3/R.222 (IMO)**
ST/SG/AC.10/C.3/R.388 (United States)
ST/SG/AC.10/C.3/R.522 (IMO)
ST/SG/AC.10/C.3/R.574 (Norway)
ST/SG/AC.10/C.3/R.583 (CEFIC)
ST/SG/AC.10/C.3/R.589 (IPCS)

183. The Sub-Committee noted that there were still differences between the criteria used by IMO in Annex III of the MARPOL Convention, those in RID/ADR based on OECD criteria (but not including the lower class of hazard defined by the word "harmful" in document -/C.3/R.589), those proposed by CEFIC and those developed by OECD. Nevertheless the proposals made indicated that progress could be soon expected.

184. The Sub-Committee agreed that the OECD proposed criteria could be used as a basis for further discussion as for toxicity criteria. At the request of the representative of OECD, it was agreed that documents -/C.3/R.583 and -/C.3/R.574 could be discussed by OECD bodies, and various classes of "environmental hazard" could be defined as for toxicity Cooperation with IMO and GESAMP would be essential to reach a consensus.

185. It was recalled that the case of mixtures and solutions should also be envisaged.

186. All documents were referred to the Committee for further discussion.

Document: ST/SG/AC.10/C.3/R.518 (IMO)

187. The Sub-Committee took note of the decision of IMO to restrict the use of UN 3077 and 3082 (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID and LIQUID) to marine pollutants and to wastes carried under the Basel Convention and to exclude other environmentally hazardous substances. The Sub-Committee regretted that decision as other environmentally hazardous substances are carried in multimodal transport and need to be identified as such.

188. The expert from Germany presented information paper No. 27 and said that he intended to prepare new proposals in relation to environmentally hazardous substances in all classes, the question of marking and labelling, the definition and use of UN 3082 and 3077, redrafting of paragraph 1.9.3 and a possible new division 6.3 specific to substances hazardous to the environment as it might not be appropriate to consider any longer such substances as "miscellaneous dangerous substances" of class 9.

Hazardous Wastes

Document: ST/SG/AC.10/C.3/R.536 (Secretariat)

189. The Sub-Committee took note of the outcome of the second meeting of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Geneva, 21 to 25 March 1994) and of the decisions II/4, II/12, II/13, II/16, II/23 and II/24.

190. The Chairman said that in the next biennium the Committee should envisage more seriously cooperation with other UN bodies in order to better harmonize transport conditions of hazardous wastes.

Document: ST/SG/AC.10/C.3/R.578 (Japan)

191. The Sub-Committee took note of this document containing practical guidance for the identification of hazardous wastes controlled by the Basel Convention for use in Japan for the interpretation of Annexes I and III of the Basel Convention. Experts were invited to send comments to the expert from Japan if they deemed it necessary.

192. The expert from Germany found the document interesting but said that in his country the UN test procedures were strictly followed. The expert from the United Sates said that this document was useful as a first step and should be considered further. It was agreed that this document could constitute a starting point for clarifying the interpretation of hazard categories H10 to H13 in the next biennium and it was referred to the Committee.

RELATIONS WITH OTHER ORGANIZATIONS

Documents: ST/SG/AC.10/C.3/R.519 (IMO)
(Procedure for amending the IMDG Code)
ST/SG/AC.10/C.3/R.521 (IMO)
(Priority of amendments to the IMDG Code)

193. The representative of IMO explained the new working procedures adopted by the IMO for updating the IMDG Code and drew attention to the increased responsibilities given to the Editorial and Technical Group for considering new texts developed by the Committee of Experts on the Transport of Dangerous Goods.

194. The Sub-Committee feared that the IMO view that "any Government not in favour of a decision taken at the UN Sub-Committee or Committee would bring this view forward to the IMO Sub-Committee on the Carriage of Dangerous Goods" was an encouragement to reopen discussions on the basis of minority viewpoints, and considered that Governments should ensure consistent positions in the various fora dealing with the transport of dangerous goods. The representative of IMO said that this view was based on the fact that certain IMO member countries are not participating in the work of the Committee of Experts.

195. The representative of IMO recalled the concerns expressed by her Organization about the frequency of amendments and asked whether the periodicity of amendments to the Recommendations could be increased to three years, and if the period between Sub-Committee sessions could also be increased. She also expressed concern at the fact that amendments to some texts newly introduced in the last version (8th revised edition) of the Orange Book were already under review, even before they had been implemented through modal regulations. She said that once Amendment 27 to the IMDG Code has been published for entry into force on 1 January 1995, it might take some time until a new amendment is published by IMO.

196. Several experts shared the views of the IMO representative that the Committee should concentrate on substantial matters and that a period of two years was not sufficient to implement new recommendations through international instruments or national legislation. However, it was agreed that this question of timetable, periodicity of amendments and implementation should be discussed at the Committee level rather than at the Sub-Committee level, and therefore the IMO proposals were referred to the Committee. It was also recalled that, following the adoption of Agenda 21, Governments and international organizations were bound by new commitments as regards harmonization of classification systems and that there would be implications on the work of all organizations concerned, including IMO.

DIVISION 6.2 (INFECTIOUS SUBSTANCES)

Documents: ST/SG/AC.10/C.3/R.556 (HMAC)
ST/SG/AC.10/C.3/R.567 (HMAC)
ST/SG/AC.10/C.3/R.568 (HMAC)
ST/SG/AC.10/C.3/R.569 (HMAC)

197. The experts from Canada, Germany and Italy expressed concern at these new proposals to amend the provisions of division 6.2 which had just been revised in the last biennium. They considered that such proposals should be considered only in the next biennium.

198. The representative of ICAO said that the ICAO Dangerous Goods Panel felt that the text of this new division 6.2 was sometimes ambiguous and expected clarification, as proposed by HMAC. The representatives of Canada and Germany drew attention to the fact that 95% of infectious substances were carried by road and they did not see any urgent need to amend the Recommendations for such a purpose.

199. As several experts supported the need for clarification and for adapting the definitions on those newly revised by WHO in the 1993 edition of the WHO Laboratory Biosafety Manual, the Sub-Committee agreed to consider the HMAC proposal.

200. The proposal in paragraphs 7 (a) and (b) of document -/C.3/R.556 to amend the definition of infectious substances in paragraph 6.9(a) was adopted as modified by a proposal by the expert from Sweden in information paper No.40 (see annex 1).

201. The proposals in paragraphs 5 (a) and 5(b) of document -/C.3/R.567 to amend the definition of biological products in paragraph 6.9(c) was adopted. The expert from Germany expressed the view that the proposal to amend paragraph 6.10.1 would result in a decrease of safety. The proposal was not adopted.

202. A proposal to amend the definition of diagnostic specimens in paragraph 6.9(d) to include material for use in medical treatment was adopted (see annex 1).

203. The proposal in document -/C.3/R.568 to revise paragraph 6.9(e) was adopted, with modifications to apply the paragraph to biological products as well and to refer to pathogens rather than to infectious substances (see annex 1).

204. The proposal in document -/C.3/R.568 to amend the exemption provisions in paragraph 6.10.2 was not adopted. There was no support for applying this paragraph to diagnostic specimens known not to contain pathogens as it was felt that such specimens would not fall under transport regulations; for those where a low probability exists, several experts felt that the proposed conditions of exemptions are much less stringent than the existing ones.

205. The proposal in document -/C.3/R.569 to apply UN 3245 more generally to all genetically modified organisms rather than to genetically modified microorganisms was not adopted. This subject had been discussed in length in the previous biennium and the present agreement reached was deemed satisfactory.

OTHER BUSINESS

Sequential order of items of information in the transport document

Documents: **ST/SG/AC.10/C.3/R.463 (France)**
ST/SG/AC.10/C.3/R.490 (HMAC)
ST/SG/AC.10/C.3/R.502 (ICS)
ST/SG/AC.10/C.3/R.549 (Australia)
ST/SG/AC.10/C.3/R.594 (IATA)

206. In document -/C.3/R.463, the expert from France proposed, on behalf of the RID/ADR Joint Meeting (Joint Meeting of the UN/ECE Working Party on the Transport of Dangerous

Goods and the OCTI RID Safety Committee), that the sequential order of items of information in the transport document required in paragraph 13.6.2 should be amended so that the UN number should appear first before the proper shipping name. The question had been discussed at the previous session (document ST/SG/AC.10/C.3/16, paragraphs 170 to 175) and it had been agreed to consult other organizations concerned, including non-governmental organizations representing users in order to evaluate the cost of such a change.

207. The representative of HMAC (document -/C.3./R.490) did not dispute the value of the UN number for the substance identification in international transport where several languages are used, but recalled that in most cases transport occurred at national or regional level and in that case it was more important to have access to the proper shipping name first. The cost of such a change was not negligible, as it would imply not only modifications to computer programmes but also training of shippers and revision of training manuals.

208. The observer of Australia (document -/C.3/R.549) expressed a general feeling of opposition in his country as the change would impose additional costs without assessment that there would be a substantive safety or other benefit.

209. The expert from the United States recalled that the order presently recommended is now required for international sea and air transport as well as in the national regulations of many countries where the Recommendations are implemented, and he deplored that the bodies responsible for land modes in Europe did not follow that recommendation, as he felt that harmonization in that respect was important for multimodal transport.

210. The expert from Belgium was not convinced that harmonization of the sequential order was necessary and felt that this should be left to the appreciation of the shipper. In the course of container inspection programmes which took place in his country, non-compliance with that rule was of very low concern to inspection authorities.

211. It was recalled that the UN/ECE Committee on the Development of Trade was preparing a revised Recommendation No.11 on the documentary aspects of the transport of dangerous goods and that that body had also underlined the need for harmonization so that single dangerous goods declarations might be used in a multimodal transport operation. The expert from Germany also emphasized the need for harmonization.

212. ICS in document -/C.3/R.502 explained that there would be only a limited financial impact on ship operators and that it would be prepared to follow a UN decision if subsequently adopted

by IMO. It was felt however that any proposed change to existing procedure should only be made if there is a compelling need to do so.

213. The representative of IATA (document -/C.3/R.594) said that there would be substantial costs involved for changing paper forms and computer programs. Therefore he suggested that the decision should be postponed until such time that the format of the dangerous goods transport document in general is revised.

214. The representative of OCTI explained that the UN number was required first in Europe because of the wide variety of languages in European countries and because in that context the UN number was more representative of the danger in international transport than the proper shipping name which might not always be understood in the transit countries. He said that the UN number could also be confused with other figures requested in the transport document (item number for RID/ADR, mass, quantity, etc.) if it did not appear at the beginning. However, he said that in view of future work on restructuring RID and ADR and possibly the UN Recommendations, as well as of future prospects for the use of electronic data interchange instead of documentation, the proposal was not necessarily relevant and a decision at this stage might be premature.

215. It was recalled that the interpretation of paragraph 13.6.2 is that the UN number in the transport document should be preceded by the letters "UN" to avoid confusion.

216. The Chairman asked whether there was any need to change paragraph 13.6.2 at this time. As there was only one expert (from France) answering positively, the Chairman concluded that there was no need to change paragraph 13.6.2 at this time and that the proposal from the expert of France in document -/C.3/R.463 should be cancelled as well as all related documents.

Document: ST/SG/AC.10/C.3/R.497 (United Kingdom)

217. The proposal for an editorial renumbering of paragraphs in chapter 6 was adopted with minor modifications to take account of the new paragraph 6.7 (see annex 1).

Document: ST/SG/AC.10/C.3/R.507 (Austria)
(Use of the term "liquid" in respect of filling degrees of tanks)

218. The observer from Austria proposed in this document to clarify the interpretation of the word "liquid" for the application of the UN Recommendations. Several experts shared the view

that there were problems in defining transport conditions for certain substances whose physical state may change depending on the transport temperature. They suggested that they could be addressed in the next biennium. Other experts recalled that this had been addressed in the last biennium and paragraph 1.10 had been amended accordingly. The proposal, as drafted, was rejected by a large majority, and any expert wishing to pursue the matter in the next biennium should provide written justification to the Committee.

219. The Sub-Committee took note of an application for consultative status by the "Society of the Plastics Industry, Inc." (SPI) but was not convinced on the basis of the information provided that SPI could be considered as an organization of a recognized international standing within the meaning of the principles of ECOSOC Resolution 1296 (XLIV). Therefore there was no support for the application.

Reformatting of the UN Recommendations

Documents: ST/SG/AC.10/C.3/R.486 (United States)
ST/SG/AC.10/C.3/R.520 (IMO)
ST/SG/AC.10/C.3/R.530 (Secretariat)

220. The expert from the United States proposed in document -/C.3/R.486 to reformat the UN Recommendations so that their structure might be used as a model for each instrument applicable to national or international transport of dangerous goods, whatever the mode of transport is. This would facilitate the updating of all instruments and would thus improve harmonization.

221. The Sub-Committee noted that IMO, the UN/ECE Working Party on the Transport of Dangerous Goods, the RID/ADR Joint Meeting were also presently discussing restructuring of their respective instruments, and that quite a large amount of work had already been performed on the ADR.

222. Several experts regretted that the decision of restructuring the UN Recommendations had not been taken ten years ago, as this structure could have then been used by all organizations wishing to restructure their own instruments. It would now be necessary to cooperate closely with all organizations concerned to make sure that the new format would suit their needs and to avoid duplication of work. This would lead to an increased workload and would imply that such a reformatting, if decided, should be conducted slowly with a considerable amount of consultations. The expert from France said that during the period necessary for conducting such

a restructuration, a lower priority should be given to the amendments to the text of the Recommendations.

223. The Sub-Committee encouraged, by a large majority, the expert from the United States to present a more detailed example of the proposed draft model rule to the Committee as a basis for discussion of the work programme for the next biennium.

FUTURE WORK

224. The following documents are referred to the Committee:

ST/SG/AC.10/C.3/R.222, -/C.3/R.253, -/C.3/R.364, -/C.3/R.369/Rev.1, -/C.3/R.387, -/C.3/R.388, -/C.3/R.396, -/C.3/R.397, -/C.3/R.422, -/C.3/R.439/Rev.1, -/C.3/R.440 and Corr.1, -/C.3/R.441, -/C.3/R.460, -/C.3/R.467, -/C.3/R.474, -/C.3/R.475, -/C.3/R.481, -/C.3/R.484, -/C.3/R.486, -/C.3/R.488, -/C.3/R.496, -/C.3/R.508, -/C.3/R.514, -/C.3/R.518, -/C.3/R.519, -/C.3/R.521, -/C.3/R.522, -/C.3/R.523, -/C.3/R.524, -/C.3/R.525, -/C.3/R.526, -/C.3/R.529, -/C.3/R.535, -/C.3/R.536, -/C.3/R.550, -/C.3/R.552, -/C.3/R.554, -/C.3/R.559, -/C.3/R.570, -/C.3/R.574, -/C.3/R.578, -/C.3/R.583, -/C.3/R.584, -/C.3/R.587, -/C.3/R.589, -/C.3/R.590, -/C.3/R.591, -/C.3/R.592, -/C.3/R.593.

225. The eighteenth session of the Committee is scheduled to be held from 28 November to 2 December 1994 and the deadline for submission of documents is 16 September 1994. A working group on portable tanks is scheduled from 28 November to 2 December 1994 and a working group on the rationalization of the Manual of Tests and Criteria is scheduled for 28 and 29 November 1994.

ADOPTION OF THE REPORT

226. The Sub-Committee adopted the report on its ninth session together with the annexes.

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COMMITTEE OF EXPERTS ON THE
TRANSPORT OF DANGEROUS GOODS

Sub-Committee of Experts on the
Transport of Dangerous Goods

REPORT OF THE SUB-COMMITTEE OF EXPERTS ON ITS NINTH SESSION
(Geneva, 4 - 15 July 1994)

Addendum 1

Annex 1

Draft amendments to the Recommendations on the Transport of Dangerous Goods

GE.94-22907

Annex 1

DRAFT AMENDMENTS TO THE RECOMMENDATIONS ON THE TRANSPORT OF DANGEROUS GOODS

PREFACE

Amend according to ST/SG/AC.10/C.3/R.483, Annex 5, paragraph 1.

CONTENTS

Amend according to ST/SG/AC.10/C.3/R.483, Annex 5, paragraph 2.

Chapter 1: SCOPE OF THE RECOMMENDATIONS

1.17.1 The modification in document ST/SG/AC.10/C.3/16, annex 3, is cancelled.

1.23 Amend Note 2 to read:

"Toxins from plant, animal or bacterial sources which do not contain any infectious substances, or toxins that are contained in substances which are not infectious substances, should be considered for classification in Division 6.1 and assigned to UN 3172."

Chapter 2: LIST OF DANGEROUS GOODS MOST COMMONLY CARRIED

Add two new paragraphs in the text preceding the list:

"(4) the proper shipping name may be shown in the plural where isomers of similar classification exist, for the purposes of documentation and package marking;

(5) hydrates of inorganic substances may be included under the equivalent proper shipping name for the anhydrous substance, as appropriate;"

Renumber existing paragraph (4) as paragraph (6)

UN numbers: 0004 to 0499 (Class 1 entries):

Amend entries according to ST/SG/AC.10/C.3/R.483, Annex 4, with amendments as follows:

Delete all existing square brackets and double square brackets.

UN numbers: 0006, 0009, 0010, 0012, 0014, 0015, 0016, 0018, 0019, 0034, 0035, 0038, 0039, 0048, 0056, 0137, 0138, 0168, 0169, 0171, 0181, 0182, 0183, 0186, 0221, 0241, 0243, 0244, 0245, 0246, 0247, 0254, 0279, 0280, 0281, 0286, 0287, 0297, 0299, 0300, 0301, 0303, 0321, 0326, 0327, 0328, 0329, 0338, 0339, 0344, 0345, 0346, 0347, 0362, 0370, 0412, 0413, 0414, 0417, 0424, 0425, 0434, 0435, 0436, 0437, 0438, 0451, 0488:

Delete Special Provision 2AI in column (b3).

UN numbers: 0075, 0143, 0180, 0181, 0183, 0186, 0280, 0281, 0295, 0329, 0330, 0340, 0341, 0433, 0436, 0437, 0438, 0451:

delete Packing Method EP 01 in column (c2).

UN numbers: 0333, 0334, 0335, 0336, 0337:

delete Special Provision 2AH in column (b3).

UN numbers: UN 0042, 0048, 0283, 0288:

delete Special Provision 2AL in column (b3).

UN numbers: 0457, 0458, 0459, 0460

delete Special Provision 2AL in column (b3);
delete Packing Method EP 32 in column (c2).

UN 0060 delete Packing Method EP 33 in column (c2).

UN 0072 amend Packing Method "EP 11(a)" in column (c2) to read "EP 12(a)".

UN 0082 add Special Provision "2AH for EP 17" in column (b3);
add "or EP 17" in column (c2).

UN 0101 amend the proper shipping name in column (a2) to read:

"FUSE, NON-DETONATING".

UN 0124 amend Packing Method EP 34 in column (c2) to read EP 01.

UN 0132 amend Packing Method EP 01 in column (c2) to read EP 14(b).

UN 0133 amend Packing Method "EP 11(a)" in column (c2) to read "EP 12(a)".

UN 0150 delete Packing Method EP 12 in column (c2).
amend Packing Method "EP 11(a)" in column (c2) to read "EP 12(a) or EP 12(b)".

UN 0203 amend Packing Method EP 01 in column (c2) to read EP 14(b).

UN 0226 amend Packing Method "EP 11(a)" in column (c2) to read "EP 12(a)".

UN 0241 add Special Provision "2AI for EP 17" to column (b3).
add "or EP 17" in column (c2).

UN 0248 amend Packing Method EP 01 in column (c2) to read EP 44.

UN 0249 amend Packing Method EP 01 in column (c2) to read EP 44.

UN 0342 amend Packing Method EP 11(b) in column (c2) to read EP 14(a).

UN 0343 delete Packing Method EP 11(b) in column (c2).
amend Packing Method EP 14 in column (c2) to read EP 11.

UN 0394 amend Packing Method "EP 11(a)" in column (c2) to read "EP 12(a)".

UN 0433 amend Packing Method EP 11(b) in column (c2) to read EP 11.

UN 0482 delete "or EP 17" in column (c2).

UN 0494 amend Packing Method EP 34 in column (c2) to read EP 01.

Insert a new entry "0500" to read:

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
"0500	DETONATOR ASSEMBLIES, NON-ELECTRIC for blasting	1.4S	-	-	-	EP 31"

UN numbers: 1005, 1026, 1027, 1053, 1067, 1079:

delete the word "LIQUEFIED" from the proper shipping name.

UN numbers: 1008, 1016, 1023, 1071, 1660, 1859, 1911, 1957, 1979, 1980, 1981, 1982, 2036, 2190, 2193, 2198, 2203, 2417, 2451, 2600:

insert the word "COMPRESSED" in the proper shipping name.

UN numbers: 1035, 1070, 2035:

delete the word "COMPRESSED" from the proper shipping name.

UN numbers: 2845, 2846, 3194, 3200, 3203:

delete Special Provision 110 in column (b3)

UN 1009 Add the following alternative proper shipping name:
"(REFRIGERANT GAS R 13B1)"

UN 1011 Amend the proper shipping name to read "BUTANE".

UN 1014 Add the word "COMPRESSED" to the proper shipping name.
Add the Subsidiary risk 5.1.

UN 1018 Add the following alternative proper shipping name:
"(REFRIGERANT GAS R 22)"

UN 1020 Add the following alternative proper shipping name:
"(REFRIGERANT GAS R 115)"

UN 1021 Add the following alternative proper shipping name:
"(REFRIGERANT GAS R 124)"

UN 1022 Add the following alternative proper shipping name:
"(REFRIGERANT GAS R 13)"

UN 1028 Add the following alternative proper shipping name:
"(REFRIGERANT GAS R 12)"

UN 1029 Add the following alternative proper shipping name:
"(REFRIGERANT GAS R 21)"

UN 1030 Add the following alternative proper shipping name:
"(REFRIGERANT GAS R 152a)"

UN 1063 Add the following alternative proper shipping name:
"(REFRIGERANT GAS R 40)"

UN 1110 Amend the proper shipping name to read:
"n - AMYL METHYL KETONE"

UN 1199 Amend name to read:
"FURFURALDEHYDES"

Transfer from Class 3, packing group III to division 6.1, packing group II.

Add the subsidiary risk "3" to column (b2)

UN 1251 Amend name to read:
"METHYL VINYL KETONE, STABILIZED"

Transfer from Class 3, packing group II to division 6.1, packing group I.
Add the subsidiary risks "3" and "8" to column (b2)

UN 1323 Add Special Provision "249" in column (b3)

UN 1555)
UN 1556) After "N.O.S.," insert "inorganic," into the description.

UN 1695	Add the subsidiary risk "8" to column (b2) Transfer from packing group II to packing group I
UN 1858	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 1216)"
UN 1914	Amend the proper shipping name to read: "BUTYL PROPIONATES"
UN 1958	Amend the proper shipping name to read: "1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE" Add the following alternative proper shipping name: "(REFRIGERANT GAS R 114)"
UN 1959	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 1132a)"
UN 1964	Amend the proper shipping name to read: "HYDROCARBON GAS MIXTURE, COMPRESSED, N.O.S.*"
UN 1965	Amend the proper shipping name to read: "HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.*"
UN 1969	Amend the proper shipping name to read: "ISOBUTANE".
UN 1974	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 12B1)"
UN 1976	Add the following alternative proper shipping name: "(REFRIGERANT GAS RC 318)"
UN 1978	Amend the proper shipping name to read: "PROPANE"
UN 1982	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 14)"
UN 1983	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 133a)"
UN 1984	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 23)"
UN 1990	In column (c2), add "M".
UN 2035	Amend the proper shipping name to read: "1,1,1-TRIFLUOROETHANE". Add the following alternative proper shipping name: "(REFRIGERANT GAS R 143a)"
UN 2193	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 116)"

UN 2295	Transfer from packing group II to packing group I
UN 2348	Amend the proper shipping name to read: "BUTYL ACRYLATES"
UN 2369	To be deleted
UN 2422	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 1318)"
UN 2424	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 218)"
UN 2426	Add special provision 252 in volumn (b3).
UN 2453	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 161)"
UN 2454	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 41)"
UN 2489	To be deleted
UN 2517	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 142b)"
UN 2599	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 503)"
UN 2602	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 500)"
UN 2644	Transfer from packing group II to packing group I
UN 2658	To be deleted
UN 3159	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 134a)"
UN 3170	Amend name to read: "ALUMINIUM SMELTING or REMELTING BY-PRODUCTS"
UN 3217	To be deleted
UN 3220	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 125)"
UN 3296	Add the following alternative proper shipping name: "(REFRIGERANT GAS R 227)"

Add the following new entries:

(a1)	(a2)	(b1)	(b2)	(b3)	(c1)	(c2)
"3315	CHEMICAL SAMPLE, TOXIC liquid or solid	6.1	-	250	I	-
"3316	CHEMICAL KIT or FIRST AID KIT	9	-	251	-	-"

Chapter 3: SPECIAL PROVISIONS RELATING TO INDIVIDUAL SUBSTANCES AND ARTICLES

Amend according to ST/SG/AC.10/C.3/R.483, Annex 3 and Annex 5, paragraph 4, with amendments as follows:

Delete all square brackets and double square brackets.

2AA: Delete "Note: ... applicability".

2AB: Amend "(0495, 0497)" to read: "(0075, 0143, 0495, 0497)".

2AC: Amend "(0495, 0497)" to read: "(0075, 0143, 0495, 0497)".

2AD: in the second line amend: "form" to read: "from".

2AE: Amend to read: "When the shaped charges are packed singly, the conical cavity should face downwards and the package marked "THIS SIDE UP". When the shaped charges are packed in pairs the conical cavities should face inwards to minimise the jetting effect in the event of accidental initiation. (0059, 0439, 0440, 0441)".

2AH: Delete all text and insert: "This packing method may only be used for explosives of 0082 which are mixtures of ammonium nitrate or other inorganic nitrates with other combustible substances which are not explosive ingredients. Such explosives should not contain nitroglycerin, similar liquid organic nitrates, or chlorates."

2AI: Delete all text, and the Note and insert "This packing method may only be used for explosives of 0241 which consists of water as an essential ingredient and high proportions of ammonium nitrate or other oxidizers, some or all of which are in solution. The other constituents may include hydrocarbons or aluminium powder, but should not include nitro-derivatives such as trinitrotoluene."

2AL: Delete the first 2AL and all text.
Delete the Note under the second 2AL.

2AN: Line 3: amend "component" to read "competent".

Special Provisions 2AA to 2AP should be numbered 253 to 269.

Special Provision

105: Amend existing reference to "Special Provision 81" to read "Special Provision 80"

110: To be deleted

126: To be deleted

210: Amend to read:

"Toxins from plant, animal or bacterial sources which contain infectious substances, or toxins that are contained in infectious substances, should be classified in Division 6.2."

226: Amend to read:

"Formulations of these substances, containing not less than 30% non-volatile, non-flammable phlegmatizer are not subject to these Recommendations."

235: Insert a new sentence before the last sentence:

"If the air bag inflator unit satisfactorily passes the series 6(c) test, it is not necessary to repeat the test on the air bag module itself."

239: Amend the first sentence to read:

"Batteries or cells should not contain dangerous goods other than sodium, sulphur and/or polysulphides."

Add a new final paragraph to read:

"Batteries installed in vehicles are not subject to these Recommendations."

244: Amend to read:

"This entry includes e.g. aluminium dross, aluminium skimmings, spent cathodes, spent potliner and aluminium salt slags"

245: To be deleted

Add the following new Special Provisions:

"249 Ferrocerium, stabilized against corrosion, with a minimum iron content of 10 % is not subject to these Recommendations.

250 This entry may only be used for samples of chemicals taken for analysis in connection with the implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction. The transport of substances under this entry should be in accordance with the chain of custody and security procedures specified by the Organization for the Prohibition of Chemical Weapons.

The chemical sample may only be transported providing prior approval has been granted by the competent authority or the Director General of the Organization for the Prohibition of Chemical Weapons and providing the sample complies with the following requirements:

(a) it should be packed according to Packing Instruction 623 in the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air; and

(b) during transport it should be accompanied by a copy of the document of approval for transport, showing the quantity limitations and the packing requirements.

251 The entry CHEMICAL KIT or FIRST AID KIT is intended to apply to boxes, cases etc. containing small quantities of various dangerous goods which are used for medical, analytical or testing purposes. Such kits may not contain dangerous goods listed in 15.2.

Components should not react dangerously (see 9.3.6). Dangerous goods in kits should be packed in inner packagings which should not exceed either 250 ml or 250 g and should be protected from other materials in the kit. The total quantity of dangerous goods in any one kit should not exceed either 1 l or 1 kg. The maximum total quantity of dangerous goods in any one outer package should not exceed 10 kg. The packing group assigned to the kit as a whole should be the most stringent packing group assigned to any individual substance in the kit.

Kits should be packed in packagings which meet the requirements appropriate to the packing group assigned to the kit as a whole.

Kits which are carried on board vehicles for first-aid or operating purposes are not subject to these Recommendations.

252 Provided the ammonium nitrate remains in solution under all conditions of transport, aqueous solutions of ammonium nitrate, with not more than 0.2% combustible material, in a concentration not exceeding 80%, are not subject to these Recommendations."

CHAPTER 4 SPECIAL RECOMMENDATIONS RELATING TO CLASS 1

Section 4.8: Amend according to ST/SG/AC.10/C.3/R.483, Annex 1 and Annex 5, paragraph 5, with amendments as follows:

Delete all square brackets and double square brackets.

Paragraph 4.8.2.7: Amend to read:

"Packagings for water soluble substances should be water resistant. Packagings for desensitized or phlegmatized substances should be closed to prevent changes in concentration during transport."

Paragraph 4.8.2.14: Amend to read:

"Large and robust explosives articles, normally intended for military use, without their means of initiation or with their means of initiation containing at least two effective protective features, may be carried unpackaged. When such articles have propelling charges or are self-propelled, their ignition systems should be protected against stimuli that can be met during normal conditions of transport. A negative result in Test Series 4 on an unpackaged article indicates that the article can be considered for transport unpackaged. Such unpackaged articles may be fixed to cradles or contained in crates or other suitable handling devices."

Paragraph 4.8.2.15: Delete.

Paragraph 4.8.2.16: Delete.

Paragraph 4.8.2.17: Renumber as 4.8.2.15.

Paragraph 4.8.2.18: Renumber as 4.8.2.16.

At the end of the paragraph add: (See 9.3.2)
Delete the note.

Paragraph 4.8.2.19: Renumber as 4.8.2.17.
Delete the third sentence and the note.

Paragraph 4.8.2.20: Delete.

Table 4.3: Amend according to document ST/SG/AC.10/C.3/R.483, annex 2, with the following modifications:

Note (3): Amend the first sentence to read: "The term "receptacle" used in the inner and intermediate packaging columns of this table includes boxes, bottles, cans, drums, jars and tubes, including any means of closure."

Delete the second sentence.

Note (4): Amend to read: "Reels are devices made of plastics, wood, fibreboard, metal or other suitable material comprising a central spindle with or without side walls at each end of the spindle. Articles and substances can be wound onto the spindle and may be retained by the side walls."

Note (6): Delete.

Method EP 01:

Column 2: Delete 0248, 0249, 0433, 0132, 0203, 0340, 0341, 0075, 0143, 0180, 0181, 0182, 0183, 0295, 0436, 0437, 0438, 0186, 0280, 0281, 0329, 0330 and 0451.
Add in numerical sequence to 1.1D: "0124".
Add in numerical sequence to 1.4D: "0494".

Column 6: Delete "109 for 0132".
Delete "2AA for 0132 and 0203".
Delete "2AG for 0248 and 0249".

Method EP 10:

Column 1: Delete "French Proposal".
Add "(a)" to first EP 10 and "(b)" to second EP 10.

Column 5: EP 10(a): Under drums amend (1H2) to read (1A2) and (1H.2) to read (1H2).

Column 6: EP 10(b): in the second line: move "2AM for ... 0224" to a new line.

Method EP 11(a):

Delete.

Method EP 11(b):

Renumber as EP 11.

Column 2: Delete 0342.

Column 3: Delete "(b) Compatibility Group C".
Delete "and 0342" from the Note.

Column 6: Delete 105 for 0342.

Method EP 12(a):

Column 2: Add in numerical sequence: 0072, 0133, 0226 and 0394.

Column 3: Add to bags: "Paper, multiwall, water resistant" and "Textile, rubberized".

Column 4: To bags add: "Textile, plastic coated or lined".

Add "1" to the Note.

Add "Note 2: intermediate packagings are not required for 0072 and 0226".

Column 5: Add to boxes in correct alpha-numeric sequence " aluminium (4B), plastics, expanded (4H1) and plastics, solid (4H2)". "aluminium, removable heads (1B2)" should read "aluminium, removable head (1B2)"

Column 6: Add 0394 to 2AA.
Add "2AN for 0072, 0133, 0150 and 0226".

Method EP 12(b):

Column 2: Add in correct numerical sequence in square brackets: 0072, 0133, 0226 and 0394.

Column 3: To Bags add: "paper, mulitwall, water resistant" and " Textile, rubberized".

Column 4: Delete: "Not necessary".
Add: "Bags - plastic and textile, plastic coated or lined".

Column 5: To Boxes add: in correct alpha-numeric sequence: "steel (4A), aluminium (4B), plastics, expanded (4H1) and plastics, solid (4H2)".
Move "plywood" (4D)" before fibreboard (1B2).
To drums add: in correct alpha-numeric sequence: "aluminium, removeable head (1B2)".

Column 6: Add 0394 to 2AA.

Method EP 13:

Column 6: Amend "4.8.2.18 for ... used" to read "4.8.2.16 for 0027 when inner packagings are not used".

Method EP 14(a):

Column 2: After 0236 add 0342.

Column 3: Add "Note: inner packagings are not required for 0342 when metal (1A2 or 1B2) or plastics (1H2) drums are used as outer packagings".

Column 6: Delete 0343 and insert 0342.

Method EP 14(b):

Column 2: Delete 0343.

Column 3: Delete "Sheets (*) ... for 0343 only".
Delete "(Comment: ... EP 11(b)?)".
Under Receptacles: delete ", water resistant" from paper and fibre board.

Column 6: Add "109 for 0132".
Add "2AA for 0132 and 0203".

Method 15(a), 15(b) and 15(c):

Replaced by EP 15, as follows:

METHOD	Division, Compatability Group and UN No.	Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements	Special Provisions
EP 15	1.1C 0497 1.3C 0495 1.1D 0075 0143 0144	Receptacles plastics metal (*)	Bags (**) plastics in metal receptacles Drums (***) metal Not necessary for 0144	Box natural wood, ordinary (4C1) plywood (4D) reconstituted wood (4F) fibreboard (4G) (****) Drums steel, removeable head (1A2) aluminium, removeable head (1B2) (*****) plywood (1D) fibre (1G)	2AB for 0075, 0143, 0495 and 0497 when Boxes are used as outer packagings. 2AC for 0075, 0143, 0495 and 0497 when Drums are used as outer packagings 224 for 0495 and 0497 2AN for 0075 and 0143 2AL for 0144
		(*) For 0144 only.	(**) To be used for 0075, 0143, 0495 and 0497 when boxes are used as outer packagings. (***) To be used for 0075, 0143, 0495 and 0497 when drums are used as outer packagings.	(****)To be used for 0144 only (*****) Not to be used for 0144	

METHOD	Division, Compatability Group and UN No.	Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements	Special Provisions
EP 17	1.1D 0082, 0241 1.5D 0331, 0332	Not necessary	Not necessary	IBCs(*) Metal (**)(11A) (11B)(11N)(21A) (21B)(21N)(31A) (31B)(31N) Flexible (***) (13H1)(13H2)(13H3) (13H4)(13H5)(13L1) (13L2)(13L3)(13L4) (13M1)(13M2) Rigid plastics (11H1)(11H2)(21H1) (21H2)(31H1)(31H2) Composite (11HZ1)(11HZ2)(21HZ1) (21HZ2)(31HZ1)(31HZ2) (*) For free flowing substances only (**) Not for UN 0082 and 0241 (***) For solids only.	2AH for 0082 2AI for 0241

Method EP 16:

Column 3: Note 2: after 0082 add 0084.

Add: "Note 3: inner packagings are not required for 0081 when contained in rigid plastic which is impervious to nitric esters".
Add: "Note 4: inner packagings are not required for 0331 when Bags (5H2), (5H3) or (5H4) are used as outer packagings".

Column 5: Renumber Note 3 to Note 5.

Add "Note 6: Bags should not be used as outer packagings for 0081".

Method EP 17:

Delete and replace with new EP 17, as above.

Method EP 30:

Column 3: Delete "(See 4.8.2.15)" .
After "Not necessary" add: "except for small arms ammunition".
Add: Receptacles(*)
fibreboard
metal
plastics
wood
Trays fitted with dividing partitions(*)
plastics
wood
(*) Only for 0012, 0014, 0327, 0338, 0339 and 0417.

Column 6: Delete 2AI and replace with 4.8.2.14.
Place "ie 0005 ... 0427" in brackets.
Within the brackets add in correct numerical sequence: 0238, 0240, 0453, 0242, 0279, 0414, 0012, 0014, 0327, 0338, 0339, 0417, 0457, 0458, 0459 and 0460.
Delete "2AL for 0048".
Delete "(Comment: ... unpackaged".
Add "4.8.2.16 for 0457, 0458, 0459 and 0460".

Method EP 31:

Column 2: To 1.4S add: 0500.

Column 3: Amend "(**) ... only" to read: "only for 0030, 0255, 0360, 0361, 0456 and 0500".

Column 5: Add: Drums
steel, removeable head (1A2)
aluminium, removeable head (1B2)
fibre (1G)
plastics, removeable head (1H2)

Method EP 32(a):

Column 2: Delete 0457, 0458, 0459, 0460, 1.4D and 1.4S.

Columns 3-5: Amend "(a)" to read: "Articles consisting of closed metal, plastics or fibreboard casings that contain a detonating explosive, or consisting of plastics-bonded detonating explosive."

Column 6: Delete "2AL ... 0460".

Method 32(b):

Columns 3-4: Amend "(b)" to read: "Articles without closed casings".

Colum 6: Add: "4.8.2.16 for 0042, 0060 and 0283".

Method EP33:

Column 2: Delete 0060.

Column 3: Delete "Tubes (**) ... plastics".
Delete "(**) only ... 0376".
Amend "(*)" to read "Only for 0044, 0073, 0319, 0320, 0364, 0365, 0366, 0376, 0377 and 0378".

Column 4: Amend "Receptacles (***)" to read "Receptacles (**)".
Amend "(***)" to read "(**) Only required when inner packagings are trays".

Method EP 34:

Column 2: Delete 0124, 0494 and 1.4D .

Method EP 35:

Column 3: Amend "Sheets
paper, kraft" to read:
"Sheets
paper
plastics"

Amend "Bags
paper, kraft" to read:
"Bags
paper
plastics"

Column 6: Delete "2AH .. 0337".

Method EP 38:

Column 6: Delete "2AL" and insert "4.8.2.18".

Method EP 39:

Column 3: Delete "kraft".
Add to Receptacles: fibreboard, plastics, wood.

Method EP 40:

Column 3: Amend first "Note:" to read: "Note 1:".
Amend second "Note:" to read "Note 2: For 0101, the packaging should be sift proof except when the fuse is covered by a paper tube and both ends of the tube are covered with removeable caps".

Column 6: Amend "2AL for 0105" to read: "4.8.2.16 for 0105".

Method EP 44:

New packing method for CONTRIVANCES, WATER ACTIVATED, as follows:

METHOD	Division, Compatability Group and UN No.	Inner packagings and arrangements	Intermediate packagings and arrangements	Outer packagings and arrangements	Special Provisions
EP 44	1.2L 0248 1.3L 0249	Dividing partitions in the outer packaging Receptacles fibreboard metal plastics	Not necessary	Boxes steel (4A) aluminium (4B) natural wood, ordinary (4C1) with metal liner plywood (4D) with metal liner reconstituted wood (4F) with metal liner plastics, expanded (4H1)	2AG for 0248 and 0249

CHAPTER 6: SPECIAL RECOMMENDATIONS RELATING TO CLASS 6

Paragraphs

6.1 to 6.5: Renumber as proposed in ST/SG/AC.10/C.3/R.497.

6.4.1 (renumbered 6.3.2) In the table of "GROUPING CRITERIA" , add a reference to a footnote "b" in the headings of the second and third columns (e.g., heading of second column to read "Oral toxicity LD_{50} (mg/kg)[b]") and add a new footnote "b" below the table to read:

b/ LD_{50} toxicity data for a number of common pesticides may be obtained from the most current edition of the document The WHO Recommended Classification of Pesticides by Hazard and Guidelines to Classification available from the International Programme on Chemical Safety, World Health Organization (WHO), 1211 Geneva 27, Switzerland. While that document may be used as a source of LD_{50} data for pesticides, its classification system should not be used for purposes of transport classification of, or assignment of packing groups to, pesticides, which should be in accordance with these Recommendations.

6.6 Replace by the new section 6.6 in Annex 3 to document ST/SG/AC.10/C.3/16 (delete square brackets).

6.7 (new) Insert a new 6.7 to read:

"6.7 **Classification of pesticides**

6.7.1 [Same text as existing 6.6.1]

6.7.2 If the oral or dermal LD_{50} value for a pesticide preparation is not known, but the LD_{50} value of its active substance(s) is known, the LD_{50} value for the preparation may be obtained by applying the procedures in 6.6.

6.7.3 Table 6.1 contains a list of common pesticides and a reference to the UN numbers assigned to the proper shipping names that are relevant to the generic chemical group (e.g., organophosphorus pesticide) to which the particular pesticide belongs. The proper shipping name used in the transport of the pesticide should be selected from those referenced on the basis of the active ingredient, of the physical state of the pesticide and any subsidiary risks it may exhibit."

6.7 and
6.8 Combine existing 6.7 and 6.8 as follows:

"6.8 Segregation and decontamination

6.8.1 Substances marked .....(Text of existing 6.7)

6.8.2 A railway wagon .....
(Text of existing 6.8)"

Table 6.1: Amend the title as follows:

Table 6.1: LIST OF COMMON PESTICIDES WITH CORRESPONDING UN NUMBERS

Note: The UN numbers provide a reference to the relevant proper shipping names.

Delete the 4 right columns of the table relating to packing groups.

Division 6.2 INFECTIOUS SUBSTANCES

6.9 Add a new section heading:

"6.9 Definitions"

6.9(a): Amend existing 6.9 (a) (to be renumbered 6.9.1) to read:

"6.9.1 Infectious substances are those substances known or reasonably expected to contain pathogens.

Pathogens are defined as micro-organisms (including bacteria, viruses, rickettsia, parasites, fungi) or recombinant micro-organisms (hybrid or mutant), that are known or reasonably expected to cause infectious disease in animals or humans.

However, they are not subject to the recommendations for this division if they are unlikely to cause human or animal disease."

Delete the note following 6.9 (a).

6.9.2 Insert a new paragraph 6.9.2 to read:

"6.9.2 Infectious substances should be classified in division 6.2 and assigned to UN 2814 or UN 2900, as appropriate, on the basis of an assessment whether the substance is capable of spreading disease, in which assessment the following factors should be considered:

- the probability that the substance contains a pathogen,
- the concentration of pathogen that the substance may contain,

- the amount of the substance to be transported,
- the properties of the pathogen (i.e. risk group, see WHO Laboratory Biosafety Manual) and the mode of transmission.

The criteria for each risk group according to the level of risk are as follows:

(a) Risk Group 4: a pathogen that usually causes serious human or animal disease and that can be readily transmitted from one individual to another, directly or indirectly, and for which effective treatment and preventive measures are not usually available (i.e., high individual and community risk).

(b) Risk Group 3: a pathogen that usually causes serious human or animal disease but does not ordinarily spread from one infected individual to another, and for which effective treatment and preventive measures are available (i.e., high individual risk and low community risk).

(c) Risk Group 2: a pathogen that can cause human or animal disease but is unlikely to be a serious hazard, and, while capable of causing serious infection on exposure, for which there are effective treatment and preventive measures available and the risk of spread of infection is limited (i.e., moderate individual risk and low community risk).

Note: Risk Group 1 includes micro-organisms that are unlikely to cause human or animal disease (i.e., no, or very low, individual or community risk). Substances containing only such micro-organisms are not considered infectious substances for purposes of these Recommendations."

6.9(b) To be renumbered 6.9.3.

6.9(c) Amend the existing text of 6.9. (c) (to be renumbered 6.9.4) to read:

"6.9.4 Biological products are those products derived from living organisms, that are manufactured and distributed in accordance with the requirements of national governmental authorities which may have special licensing requirements, and are used either for prevention, treatment, or diagnosis of disease in humans or animals, or for development, experimental or investigational purposes related thereto. They include, but are not limited to, finished or unfinished products such as vaccines and diagnostic products.

Note: Some licensed biological products may present a biohazard in certain parts of the world only. In that case competent authorities may require these biological products to comply with the requirements for infectious substances or may impose other restrictions."

6.9(d) In the existing text of 6.9 (d) (to be renumbered 6.9.5) after "or investigation purposes" insert "or for use in medical treatment."

6.9(e) Amend 6.9(e) (to be renumbered 6.9.6) to read:

"6.9.6 For the purposes of these Recommendations biological products and diagnostic specimens are divided into the following groups:

(a) those known or reasonably expected to contain pathogens in risk groups 2, 3 or 4 and those where a relatively low probability exists that pathogens of risk group 4 are present. Such substances should be classified in Division 6.2 under UN 2814 or UN 2900, as appropriate. Specimens transported for the purpose of initial or confirmatory testing for the presence of pathogens fall within this group;

(b) those where a relatively low probability exists that pathogens of risk group 2 or 3 are present. Specimens transported for the purpose of routine screening tests or initial diagnosis for other than the presence of pathogens fall within this group;

(c) those known not to contain pathogens."

6.9(f) To be renumbered 6.9.7.

Rearrange 6.10 to 6.18 in accordance with ST/SG/AC.10/C.3/R.497.

CHAPTER 9: GENERAL RECOMMENDATIONS ON PACKING

9.1.9: (new) Add a new paragraph 9.1.9 to read as follows:

"9.1.9 Damaged, defective or leaking dangerous goods packages, or dangerous goods that have spilled or leaked may be transported in special salvage packagings mentioned in 9.7.1.11. [This does not prevent the use of a bigger size packagings of appropriate type and performance level under the conditions of paragraph 9.3.15]"

9.2.1 After the definition of "Inner receptacles" add the following definition:

"Intermediate packagings are packagings placed between inner packaging, or articles, and an outer packaging."

After the definition of "Reused packagings" add the following definition:

"Salvage packagings are special packagings conforming to the applicable provisions of this chapter into which damaged, defective or leaking dangerous goods packages, or dangerous goods that have spilled or leaked, are placed for purposes of transport for recovery or disposal."

9.3.15 (new) Insert a new paragraph 9.3.15 to read as follows:

"9.3.15 Appropriate measures should be taken to prevent excessive movement of the damaged or leaking packages within the salvage packaging and when the salvage packaging contains liquids, sufficient absorbent material should be added to eliminate the presence of free liquid."

Renumber existing paragraph 9.3.15 to 9.3.16.

9.4.4 Amend the first three sentences in paragraph 9.4.4 to read:

"The letter 'T' or 'V' or 'W' may follow the packaging code. The letter 'T' signifies a salvage packaging conforming to the provisions of 9.7.1.11. The letter 'V' signifies a special packaging conforming to the provisions of 9.7.1.7." (Remainder of paragraph 9.4.4 unchanged).

9.5.8 (new) Add a new paragraph 9.5.8 to read:

"9.5.8 Example of marking for salvage packaging:

u	1A2T/X300/S/94	as in 9.5.1 (a),(b),(c) and (e)
n	USA/abc	as in 9.7.1.11 (c) as in 9.5.1 (f) and (g)

9.7.2.5 Amend first sentence to read:

"Additional steps should be taken to ascertain that the plastics material used in the manufacture of plastic drums, plastics jerricans and composite packagings (plastics material) intended to contain liquids complies with the provisions in 9.3.2, 9.6.7.1 and 9.6.7.4."

9.7.3.2 Sub-paragraphs (a), (b), (c) remain unchanged.

Subparagraph (d): After "(see 9.6.18)", add "and".

Subparagraph (e): amend to read:

"Combination packagings with plastics inner packagings, other than plastics bags intended to contain solids or articles."

Subparagraphs (f), (g) and (h) to be deleted.

Remainder unchanged.

9.7.11 (new) Add a new paragraph 9.7.1.11:

"9.7.1.11 Salvage packagings (see 9.2.1) should be tested and marked in accordance with the provisions applicable to packagings intended for the transport of solids or inner packagings, except as follows:

(a) The test substance used in performing the tests should be water, and the packagings should be filled to not less than 98% of their maximum capacity. It is permissible to use additives, such as bags of lead shot, to achieve the requisite total package mass so long as they are placed so that the test results are not affected. Alternatively, in performing the drop test, the drop height may be varied in accordance with 9.7.3.4(b).

(b) Packagings should, in addition, have been successfully subjected to the leakproofness test at 30 kPa, with the results of this test reflected in the test report required by 9.7.8; and

(c) Packagings should be marked with the letter 'T' as described in 9.4.4."

Chapter 10: SPECIAL RECOMMENDATIONS ON PACKING FOR CLASS 1

To be deleted. (see ST/SG/AC.10/C.3/R.483, Annex 5, paragraph 6.)

Chapter 11: SPECIAL RECOMMENDATIONS RELATING TO CLASS 5

11.3.8.2: Replace "10.1.1 and 10.1.3" with "4.8.2.9 and 4.8.2.10".

Chapter 12: RECOMMENDATIONS ON MULTIMODAL TANK TRANSPORT

Amend Tables 12.1 and 12.2 in accordance with the modifications to Chapter 2.

Table 12.2

At the beginning, add a note 14 to read (text of deleted SP 245):

"Temperature should be maintained between 18 °C and 40 °C. Tanks containing solidified methacrylic acid should not be reheated during transport."

Amend the following entries to read:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
"1199	Furfuraldehydes	6.1/II	3	2.65	12.5.2	A/12.7.3	N.	12.22.3"
"1251	Methyl vinyl ketone, stabilized[9]	6.1/I	3 8	4	6mm	N.A.	12.9.3	12.22.3"
"1695	Chloroacetone, stabilized[9]	6.1/I	3 8	6	8mm	N.A.	12.9.3	12.22.3"
"2295	Methyl chloroacetate[9]	6.1/I	3	4	12.5.2	N.A.	12.9.3	12.22.3"
"2644	Methyl iodide	6.1/I	-	4	12.5.2	N.A.	12.9.3	12.22.3"

UN 2531 Add superscript 14 after the name

Add the following new entry:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
"1990	Benzaldehyde	9/III	-	1.5	12.5.2	A/12.7.2	N.	12.22.2"

Chapter 13: RECOMMENDATIONS ON CONSIGNMENT PROCEDURES

13.3.1 (c) Amend the end to read:

"".....handling, stowage and segregation."

13.10: (new) Insert a new section 13.10 to read as follows:

"13.10 **Salvage packagings**

Salvage packagings should be marked with the proper shipping name and UN number of, and bear all labels prescribed for, the dangerous goods contained therein and in addition, should be marked with the word 'SALVAGE'. The words "SALVAGE PACKAGE"

should be added after the description of the goods in the dangerous goods transport document required by 13.6."

Existing section 13.10 is renumbered to 13.11.

13.12: (new) Add a new section 13.12 to read:

"13.12 **Segregation of Dangerous Goods**

13.12.1 Incompatible goods should be segregated from one another during transport. For the purpose of segregation, two substances or articles are considered mutually incompatible when their stowing together may result in undue hazards in the case of leakage, spillage, or any other accident. In this regard, detailed segregation requirements for substances and articles of class 1 are provided in Chapter 4.

13.12.2 The extent of the hazard arising from possible reactions between incompatible dangerous goods may vary and the segregation arrangements required should also vary as appropriate. In some instances such segregation may be obtained by requiring certain distances between incompatible dangerous goods. Intervening spaces between such dangerous goods may be filled with cargo compatible with the dangerous substances or articles in question.

13.12.3 The provisions of the Recommendations are general in nature. The segregation requirements for each particular mode of transport should be based on the following principles:

13.12.3.1 Incompatible dangerous goods should be segregated from one another so as to effectively minimize hazards in the event of accidental leakage or spillage or any other accident.

13.12.3.2 Whenever dangerous goods are stowed together, the most stringent segregation requirements for any of the goods should be applied.

13.12.3.3 For packages required to bear a subsidiary risk label, the segregation appropriate to the subsidiary hazard should be applied when it is more stringent than that required by the primary hazard."

CHAPTER 14: SPECIAL RECOMMENDATIONS RELATING TO CLASS 4

14.2.2.7.3: Replace "10.1.1 and 10.1.3" with "4.8.2.9 and 4.8.2.10".

14.5.5.4: (new) Add a new sub-paragraph 14.5.5.4 to read as follows:

"14.5.5.4 Exemption of packing group III substances transported in IBCs and in packagings.

Packing Group III substances which are transported in packages with a volume not more than $3m^3$ should be subject to the provisions of Division 4.2 only if in the test described in 14.5.5.2 conducted with a 100 mm cube sample kept at 120 $\pm$ 2°C during the twenty-four hour testing time, a spontaneous ignition occurs or the sample temperature exceeds 200°C.

Packing Group III substances which are transported in packages with a volume not more than 450 l should be subject to the provisions of Division 4.2 only if in the test described in 14.5.5.2 conducted with a 100 mm cube sample kept at 100 ± 2°C during the twenty-four hour testing time a spontaneous ignition occurs or the sample temperature exceeds 200°C.

The flow chart in Figure 14.4 illustrates the classification, packing group assignment and exemption procedure."

(For Figure 14.4, see end of this annex).

CHAPTER 15: SPECIAL RECOMMENDATIONS FOR DANGEROUS GOODS IN LIMITED QUANTITIES

15.2 (e) Amend to read:

"(e) Organic peroxides requiring temperature control of Division 5.2".

Delete footnote [1/].

Table 15.1: At the end of footnotes b/ and c/, read "See 11.3.3 and 11.3.5".

(delete "and footnote to 15.2(e)").

Table 15.2: Add the following entries to the table:

UN Number	Proper shipping name	Maximum quantity per inner packagings
1990	BENZALDEHYDE	5 l
3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	5 kg
3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	5 l

CHAPTER 16: RECOMMENDATIONS ON INTERMEDIATE BULK CONTAINERS (IBCs)

16.4.8.1 Amend to read:

"16.4.8.1 Additional steps should be taken to ascertain that the plastics material used in the manufacture of rigid plastics IBCs of types 31H1 and 31H2 complies with the provisions of 16.4.3.1 to 16.4.3.3."

16.5.8.1 Amend to read:

"16.5.8.1 Additional steps should be taken to ascertain that the plastics material used in the manufacture of composite IBCs of types 31HZ1 and 31HZ2 complies with the provisions of 16.5.3.2.1 to 16.5.3.2.3."

16.5.10 Existing text becomes 16.5.10.1.

Add a new subparagraph 16.5.10.2 to read:

"16.5.10.2 The inner receptacle of composite IBCs should be marked with at least the following information:

The name or symbol of the manufacturer and other identification of the IBC as specified by the competent authority as in 16.1.5.1 (f);

The date of manufacture, as in 16.1.5.1 (d); and

The distinguishing sign of the State authorizing the allocation of the mark, as in 16.1.5.1 (e)".

Appendix A

Amend the existing entries in the list of generic or n.o.s. proper shipping names and add new entries in accordance with the amendments to Chapter 2.

INDEX

Amend the existing entries in the index and add new entries in accordance with the amendments to Chapter 2.

Figure 14.4 Flow Chart for Classification, Packing group assignment and Exemption for certain package volume